Building Specific Work Plan Addendum

811 East Arques Avenue
Sunnyvale, California

Date Published: 13 September 2022

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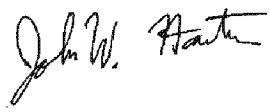

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J. Wesley Hawthorne Date

Table of Contents

List of Tables

TABLE

List of Figures

List of Appendices

List of Acronyms and Abbreviations

ACRONYM	DESCRIPTION
1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
ASAOC	Administrative Settlement Agreement and Order on Consent
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
BAAQMD	Bay Area Air Quality Management District
cis-1,2-DCE	cis-1,2-dichloroethene
COC	Chemical of Concern
EPA	United States Environmental Protection Agency
HMBP	Hazardous Materials Business Plan
HVAC	Heating, Ventilation, and Air Conditioning
Locus	Locus Technologies
µg/L	Micrograms per liter
O&M	Operations and Maintenance
PCE	tetrachloroethene
Philips	Philips Semiconductors Inc.
PM	Preventative Maintenance
Property	811 East Arques Avenue
QAQC	Quality Assurance Quality Control
RTU	Roof Top Unit
sq ft	Square Feet
SDS	Safety Data Sheet
SOP	Standard Operating Procedure

TCE	trichloroethene
trans-1,2-DCE	trans-1,2-dichloroethene
VI	Vapor Intrusion
VOCs	Volatile Organic Compounds

1. Introduction

Locus Technologies (Locus) has prepared this Building Specific Work Plan Addendum (Addendum) for the building located at 811 East Arques Avenue in Sunnyvale, California (Property). This document accompanies the Final Indoor Air/Vapor Intrusion Removal Site Evaluation and any Necessary Removal Action Work Plan (Vapor Work Plan) dated 29 May 2020 and provides supplemental building specific information and vapor intrusion (VI) sampling recommendations for the Property as overseen by the United States Environmental Protection Agency (EPA).

1.1 Purpose

The purpose of this Addendum is to provide supplemental building specific information as it relates to potential vapor intrusion, document the building survey conducted at the Property, and evaluate the results of the building survey through a conceptual site wide model. Based on this analysis, this Addendum ultimately makes sampling recommendations for the Property.

1.2 Work Plan Organization

This Addendum provides a building specific approach for VI evaluation at the Property beginning with a discussion of building-specific background in Chapter 2. The results of the building survey are discussed in Chapter 3. The building-specific conceptual side wide model is developed in Chapter 4. The building-specific sampling plan is discussed in Chapter 5. Groundwater figures relevant to the Property are included in Appendix A. The completed building survey form is included in Appendix B. The Hazardous Material Business Plan (HMBP) for the Property owner/occupant is included in Appendix C. The building Heating, Ventilation,

and Air Conditioning (HVAC) system preventative maintenance checklist being implemented by the property owner/occupant is found in Appendix D.

1.3 Property Background

The Property is located in Sunnyvale, California and is within the Signetics Site (Figures 1 and 2). It is undergoing groundwater remediation and vapor intrusion investigations as described in the Vapor Work Plan. One building currently exists at 811 East Arques Avenue, towards the southeast side of the Property, as seen in Figure 2. Before 2005, a building was located on the west side of Property. Details on the usage of each building is described below.

From 1964-2005, the Property was used by Philips Semiconductors, Inc. (Philips) as part of a semiconductor manufacturing facility, which used various organic solvents. In 1982, a source area was identified as a leak in an underground waste solvent storage tank west of the former 811 East Arques building. After this source was identified, a review of potential source areas at the site was completed, and as a result of this investigation, a second source area was identified near wastewater neutralization tanks on the north side of the former building. Locations of these sources as seen in Figure 2. The tanks were removed in 1982; impacted soils were excavated in 1982 and 1987. Groundwater extraction and treatment in the A-aquifer also began in 1982.

In 2005, the Property was sold to Lowe's Companies Inc. and the former manufacturing facility building was demolished. Redevelopment activities occurred throughout the Property. It currently contains a commercial slab on-grade building of approximately 135,000 square feet (sq ft) at the southeast side of the Property, which operates as a hardware and home improvement store. A parking lot covers the former building foot print. A current building site plan can be seen in Figure 3.

The Property parking lot is adjacent to the former 811 Arques Extraction Trench along the north side of the property. Bioremediation efforts began near the trench in 2016.

1.4 Vapor Intrusion Investigation Prior to Redevelopment

A VI investigation was conducted in 2002 at the former building. The building was evaluated using flux chambers and indoor air samples (Locus, 2003). This evaluation of the vapor intrusion pathway demonstrated that indoor inhalation exposure through that pathway was within acceptable limits and not expected to cause unacceptable risks or hazards. Because other sources were present and contributing to indoor air concentrations, it was recommended that sump covers be sealed to minimize any potential contribution from vapor intrusion. This building was demolished in 2005 and is not directly relevant to the current building on the Property. This investigation is referenced for historical completeness only.

2. Building Specific Background

The 811 Arques Signetics Property was used by Philips Semiconductors, Inc. for the research, development, and manufacturing of semiconductors. The following is a timeline of notable events regarding the Property and current building: Signetics Corporation, which later became Philips, operated a manufacturing facility at the Property starting in 1964. The manufacturing was conducted in a now-demolished building on the west side of the Property.

- In 1982, two source areas were identified as a result of an investigation stemming from leaking storage tanks of various organic solvents. These source areas were located near the former building.
- In 2005, the property was sold to Lowe's Companies, Inc. The former building was demolished and the land was redeveloped. A new building was constructed at the southeast side of the Property and currently operates as a home-improvement hardware store. No VI investigations have been conducted for the current building.

2.1 Communication with Building Owners/Managers

The following is a summary of communications with the current building owners or on-site facilities managers at the Property. As part of the ongoing groundwater cleanup activities in this area, there are several monitoring and extraction wells installed on the Property, which have been in use since the 1990s. Bioremediation efforts at the Arques Extraction Trench have also been ongoing since 2016, with property owner acknowledgment and approval. As such, communications on the environmental status of the Property have been ongoing for many years. The summary below includes communications relevant to vapor intrusion issues:

- In February 2020, the real estate manager was informed of the beginning of bioremediation work at the Extraction Trench. An info sheet regarding field activities, including building survey and air sampling, was also provided.
- In June 2021, the store manager and the corporate real estate manager were contacted by Locus to schedule a building survey.
- In October 2021, Locus met virtually with the real estate manager and his team to answer questions regarding the building survey. Approval was granted for Locus to schedule the building survey.
- In February 2022, Locus met with the operations manager of the Lowe's store at 811 East Arques and conducted a commercial building survey with oversight from an EPA-representative (APTIM).

2.2 Relevant Groundwater Sampling Data Summary

The Property is located on top of a shallow "A" groundwater aquifer. The current building is hydraulically upgradient of the former manufacturing facility building and historical sources as indicated by the groundwater contour map seen in Appendix A and locations specified in Figure 2.

Groundwater monitoring wells nearby the current building include S157A, S001A, and S024A. The TCE contour map in Appendix A shows concentrations downgradient (S024A) and upgradient (S157A) of the building are 14 micrograms per liter (µg/L) in 2020. Well S001A, cross-gradient of the property, has a lower TCE concentration of 4.8 µg/L.

Higher concentrations of TCE are located at the north end of the Property near the historical source, however because the current building is hydraulically upgradient of this area

by at least 300 feet, those concentrations are expected to have limited impact on VI levels in the building.

2.3 Pre-Survey Assessment

Typically, one goal of the commercial building survey is to identify potential sampling locations for passive indoor air sampling. However, the 811 East Arques building operates as a home improvement and hardware store and contains many products (such as glues, paints, degreasers, etc) that would normally be flagged during a routine commercial building survey. Due to the numerous products containing volatile organic compounds (VOCs) in the building, it would be difficult to determine which compounds of interest originated from vapor intrusion and which were present in the building due to off-gassing by the various products in the store. This concern was communicated to EPA by Locus during a kick-off call on 12 January 2022. Thus, it was concluded that indoor air sampling would not be an effective approach for this building due to confounding chemical sources, and vapor sub slab sampling will be planned moving forward.

Furthermore, given the chemical inventory available in the store, it was concluded that ventilation provided by the HVAC system would be most relevant factor in evaluating potential exposure. Ventilation specifically in office, classroom, and break room spaces would be of particular interest as that would be where building occupants would spend most of their time, and also because there is greater potential for indoor chemical accumulation in these smaller spaces, compared to the open warehouse. Because of this focus, the building survey template in the Vapor Work Plan was modified to remove the formal chemical inventory as agreed to in the 12 January 2022 meeting, and a review of safety data sheets and/or a HMBP would be acceptable instead.

3. Building Survey Results

On 15 February 2022, Locus personnel met with the operations manager of the Lowe's Home Improvement store at the Property for a formal commercial building survey to observe conditions related to indoor air quality and the potential for vapor intrusion. The completed survey form can be seen in Appendix B.

3.1 Building Use

The 811 East Arques building is a single level warehouse with office space that conducts business as a home improvement and hardware store.

3.2 Building Occupancy

Operating hours span seven days a week, Monday through Saturday from 6:00AM to 9:00PM, and Sunday from 8:00AM to 8:00PM. Most customers generally spend short periods of time under one hour on the premises. The building is occupied almost all the time as there are two shifts for staff. Day-time salaried staff are typically onsite for up to 50 hours per week and night-time staff are onsite for up to 40 hours per week. Staff typically spend 2-3 hours per day in the office area, which is an area of concern due to potentially lower air flow. The building is closed and unoccupied Friday and Saturday nights.

3.3 Characteristics

The building at the Property is a single-store, slab-on-grade concrete building with an approximate area of 135,000 sq ft. This includes an outdoor covered garden center with shaded structures and an indoor receiving and storage area. There is no crawlspace, basement, or attic. The sections of the building include a sales floor, a covered outdoor garden center, a receiving

and storage area, offices, classrooms, a break room for staff, and men and women's restrooms. The sales floor and garden center occupy the majority of the building. A floor plan of the building can be found in Figure 4.

The building foundation was constructed at the time of property redevelopment in 2005 and contains a moisture vapor barrier under concrete slab.

3.4 Factors Impacting Indoor Air Quality

3.4.1 Observations

The building appears well-ventilated in general. No stagnant air was observed during the commercial building survey. Supply and return grilles exist in each room and the HVAC system is constantly on during building operating hours. Additionally, there is a sliding door to the garden area that is open during operating hours. The temperature of the building during operating hour is set to hold between 68° - 73° Fahrenheit, which is typically warmer than outdoor air during the winter time.

3.4.2 Building Construction

The building materials are mostly comprised of concrete. It has an at-grade garage and an attached electrical room. The ceiling in the sales floor part of the building has a height of 31 feet while the office and classroom spaces have a ceiling height of 10 feet. There are also twenty roof top units (RTU) responsible for ventilation in the building.

3.5 Summary of Potential Vapor Migration Pathways

3.5.1 Subsurface Structures, Utilities and Floor Drains

The building foundation is slab-on-grade, and thus does not have a basement. The building contains some utilities that penetrate the slab in the electrical room, which may be

conduits for soil vapor, though they appeared sealed. Migration pathways such as floor drains can be found in the janitorial closet, the men's and women's restroom areas. There is one floor drain in each of these rooms.

Based on City of Sunnyvale utility maps, it was determined that the Property is connected to Sunnyvale's main sewer line via a lateral off of Wolfe Road, on the western side of the property. The utility map shows a depth from manhole to main sewer line of 10.7 feet, as seen in Appendix G. Water elevations for three wells, S024A, S134A, and S001A, were pulled from Locus' 2021 Annual Groundwater Monitoring Report for OOU and Signetics (Locus, 2022). The depth to groundwater for those three wells were 9.26 ft bgs, 8.47 ft bgs, and 7.80 ft bgs respectively. This suggests that the water table is above the City sewer line and the groundwater plume and vapor could impact the City sewer line. Because the Property lateral is connected to this City sewer, the lateral could be a conduit for vapors to migrate to the building. The lateral connects to a 4-inch sewer line that runs under the janitorial and restroom areas as seen in Figure 8.

3.5.2 Non-ventilated Spaces

The building appears well-ventilated. Either a supply grille, a return grille, or both exists in each room of the building, including janitorial closets. No stagnant air was noticed during the commercial building survey.

3.5.3 Heating and Cooling Sources

The building uses RTUs capable of heating and cooling. See the ventilation assessment in Section 3.7 for more details.

3.5.4 Cracks

Cracks in the foundation slab, both sealed and unsealed were noted. In general, exposed foundation slab had sealed cracks. Metal bolts, used to secure scaffold frames and shelves in

the sales floor, are drilled into the concrete slab and some have been removed due to reorganization. These drilled holes do not appear to penetrate the slab.

3.6 Inventory of Potential Indoor Chemical Sources

The Lowe's Home Improvement and Hardware store at the Property stocks over 40,000 items. A Safety Data Sheet (SDS) database is available in-store and printouts of each product are available. The database is searchable by product name, but not by product components or ingredients. Therefore, a comprehensive review of the chemical inventory would require an extensive manual review of each product SDS. In the interest of proceeding expeditiously with this evaluation, and given the high likelihood of chemicals of concern (COCs) being present in at least some of products, this database was not exhaustively searched. Should confounding factors arise, the database can be reviewed in the future.

A HMBP is also available, which details chemical storage and hazardous waste accumulation areas. A copy of the HMBP is available in Appendix C. Although the HMBP does not describe any specific storage of COCs or solvents at the Property, the storage area near the northeast corner of the building exterior includes spill cleanup waste, which may originate from other products sold in the store.

3.7 Ventilation Assessment

According to the Property's Facilities Asset Program Analyst, the building is compliant with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62. This standard specifies minimum ventilation rates of supplied outdoor air determined by area of each zone and occupancy in order to minimize potential adverse health effects. The HVAC system preventative maintenance (PM) is completed quarterly. An example

PM checklist is found in Appendix B. Air filters are changed quarterly; coil cleaning and belt is changed annually. No stagnant air was noted in the building during the commercial building survey.

The building is divided into five zones serviced by 20 RTUs capable of heating and cooling. The 20 RTUs are Lennox LGA120H, 180H, or 240H package units capable of heating and cooling. The model (i.e. power output) of the unit depends on the ventilation zone the system services. There is also one LCA036H unit only capable of cooling used to cool the computer room. These RTUs have outdoor air intakes and economizers, which have been set by the facility to meet ASHRAE standards. See Table 1 for details on HVAC system zones, unit models, outdoor air flow, and economizers. See Figure 5 for a RTU layout.

The RTUs are controlled by a building automation system that is programmed with three modes: Customer Occupied, Employee-only Occupied, and Unoccupied. During Customer Occupied times (store hours), the HVAC system fan is on continuously, providing outdoor air adhering to ASHRAE standards, and maintaining a temperature between 68° - 73° Fahrenheit. During Employee-only Occupied times (no customers), the HVAC system fan operates automatically to maintain a temperature between 67° - 73° Fahrenheit. During Unoccupied times, the HVAC system fan operates automatically to maintain a temperature between 65° - 78° Fahrenheit. Outdoor air intakes rates are seen in Table 1.

Additionally, there is a sliding door between the indoor sales floor and the outdoor garden area that remains open during customer occupied store hours. There are also receiving bays where trucks deliver products and supplies which are opened occasionally.

Information for specific areas of the building is provided below for the vestibules, staff offices, sales floor, and storage/receiving area (see Figure 5).

3.7.1 Vestibules

The vestibule zone is 1,380 square feet in area and is serviced by the RTU-2 (LENNOX LGA120H) HVAC system, which is capable of both heating and cooling. This zone encompasses corridors, restrooms, and support areas near the entrance of the building. See Figure 6 for a mechanical drawing of the RTU-2 HVAC system, including supply and return ducts and grilles.

3.7.2 Staff Offices

The staff offices are 3,764 sq ft in area and serviced by the RTU-3 (LENNOX LGA120H) HVAC system, which is capable of both heating and cooling. This zone encompasses office spaces, computer rooms, classrooms, a break room, and associated corridors. The computer room, while part of the office zone, is serviced separately by RTU-1 (LENNOX LCA036H) only capable of cooling. A mechanical drawing of the RTU-3 HVAC system, including supply and return ducts and grilles are shown in Figure 6. Each room in this office space has either a supply grille or return grille and often both.

3.7.3 Sales Floor

The sales floor is 117,347 sq ft in area and serviced by fifteen RTUs (LGA240H and LGA180H) capable of heating and cooling. There is no duct system in the sales floor area, there are only straight duct drops below each RTU. See Figure 5 for a rooftop unit layout diagram. There is also a sliding door that opens to an outdoor garden center (not included in the square footage) that remains open and provides additional outdoor air ventilation during open store hours.

3.7.4 Storage/Receiving Area

The storage/receiving area is 10,082 sq ft in area and serviced by two LENNOX LGA180H units (RTU-19, 20), which are capable of both heating and cooling. There is no duct system for the storage/receiving area, there are only straight duct drops below each RTU. Refer to Figure

5 for the rooftop unit layout diagram. There are three bay doors for trucks to deliver shipments. Two of these bay doors are actively used, while one of the bay doors has a truck container permanently parked in front of the open door and is used for storage. Furthermore, there is a walled receiving office and an enclosed electrical space in this area; however, neither the office nor electrical space has ceilings and so they receive ventilation from the two RTUs servicing this zone.

4. Building Specific Conceptual Site Model and Exposure Pathways

4.1 Conceptual Site Model

A site conceptual model identifies sources, COCs, potential exposure pathways and receptors. This building-specific conceptual model comprises of written descriptions that illustrate the current understanding of potential sources of VOCs indoors and how the VOCs may be transported from the point of release to the point where humans can breathe them.

4.2 Sources of VOCs

For an occupant of this building, potential inhalation exposure may have a number of sources. For indoor exposure, sources could be one or a combination of the following:

1. Occupational sources from the usage and storage of chemicals in the building (e.g. paints, glues, cleaning agents, and other home improvement products) or introduced from occupants' homes or occupations (e.g. dry-cleaned clothing, smoking, occupational hazards).
2. Volatilization from the subsurface (soil and/or groundwater) into the building structure through migration pathways,
3. Background concentrations contributed by outdoor air moving into the building through opened doors, the windows, or through the HVAC systems. This outdoor air contribution can include concentrations from emissions from industries (e.g. drycleaners, combustion processes, etc).

4.2.1 Occupational Sources

Concentrations of volatile chemicals in indoor air could be affected by the use of consumer products and personal habits. For example, VOCs in cleaning agents, room deodorizers, dry cleaned clothing, cigarette smoke, and vehicle exhaust can all affect indoor air quality. Certain adhesives, spot removers, paint removers, scented candles, and degreasing products can also be a potential source of TCE found in indoor air. The Lowe's home improvement and hardware store at the Property carries over 40,000 products and many contain VOCs. To counteract the unavoidable presence of VOCs, proper ventilation adhering to ASHRAE standards becomes a necessity.

4.2.2 Volatilization from Subsurface into the Building

VOCs may migrate upward via unsealed cracks in the floors or subsurface structures such as utility piping, and enter buildings in the vapor phase. These vapors may be present in the subsurface as a result of volatilization from the impacted groundwater or soils, where the chemicals may partition into the vapor phase, and then move by advection or diffusion through open pores in the soil. Since the shallow "A" Aquifer has been observed at 6 to 15 feet below ground surface in monitoring wells located near the Property (Locus, 2021a), there is a potential for volatilization. Unsealed foundation cracks that were not observed are potential migration pathways, in addition to unsealed utility penetrations. Since indoor air testing is confounded by the presence of VOCs from products in the store, soil gas testing is important to determine the magnitude of potential vapor intrusion.

As previously mentioned in Section 3.5.1, the water table appears to be above the main sewer line depth at the Property line, thus the floor drains connected to sewer lines are also potential migration pathways.

4.2.3 Background Sources

Emissions from industries (e.g. dry cleaners, combustion processes, etc.), activities (e.g. smoking, use of VOC-containing consumer products), as well as building materials (e.g. insulation, carpeting, paint, etc.) contribute VOCs to the indoor and background air. Background concentrations of VOCs are present in the local and regional outdoor ambient air.

The Bay Area Air Quality Management District (BAAQMD) operates approximately 20 air monitoring stations in the Bay Area. The BAAQMD collects air samples from these stations and analyzes them for VOCs and other airborne chemicals. Outdoor Air Quality Data Reports from these stations is available on the EPA Air Data website. Results have indicated that TCE is detected at very few stations closest to the Property. For results see Table 2.

While TCE has historically and occasionally been detected in outdoor, the Outdoor Air Evaluation conducted in February 2021 suggests that potential hazard due to VOCs in outdoor ambient air is minimal (Locus, 2021b).

4.3 Chemicals of Concern

The list of chemicals of concern for the Signetics site is specified in Section 2.5 of the Vapor Work Plan (Locus, 2020). For reference, the chemicals are 1,1-dichloroethane (1,1-DCA); 1,1-dichloroethene (1,1-DCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); Freon 113; 1,1,1-trichloroethane (1,1,1-TCA); TCE; vinyl chloride; chloroform; and tetrachloroethene (PCE).

4.4 Migration Pathway Analysis

Contaminants may volatilize from the groundwater or soil, migrate upward through voids and unsealed cracks in the floors, through dry conduits, or other subsurface structures, and

enter into buildings. Potential receptors in the buildings could inhale these chemical concentrations as they accumulate within a building over time. Of the conditions surveyed at the Property, the floor drains pose a potential as a migration pathway since it is unknown if one-way valves are installed as part of their piping construction. Observable cracks in the foundation slab appeared sealed, but there may be unsealed cracks not detected by the building survey. However, this is a lower potential migration pathway due to the thickness and construction of the slab which contains a moisture vapor barrier.

Many VOCs, including TCE, may be present in outdoor air as shown in Table 2. As such, HVAC systems drawing in outdoor air may inadvertently provide a migration pathway for airborne contaminants. However, air ventilation systems are expected to pose a relatively low potential migration pathway as concluded by the Outdoor Air Evaluation conducted in February 2021 (Locus, 2021b).

It is unclear if these migration pathways contribute to the indoor air quality from the subsurface, therefore further investigation into the specific soil gas VOC concentrations would be appropriate.

4.5 Exposure Pathways and Receptors

Inhalation of impacted indoor air by building occupants is the potential exposure pathway being evaluated by the Vapor Work Plan. Potential receptors are persons currently employed at 811 East Arques and their customers. Store hours are Monday through Saturday from 6:00AM to 9:00PM and Sunday from 8:00AM to 8:00PM. Generally, customers visiting the store during these times would spend less than an hour inside the store. Meanwhile, salaried workers spend up to 50 hours per week inside the store. Night-shift workers spend up to 40 hours per week in the store. Typically, the Indoor Air Quality Evaluation Criteria set forth in Table 4 of the Vapor

Work Plan would apply (Locus, 2020). However, since VOCs from products inside the store are a confounding variable with respect to the evaluation of vapor intrusion, sub-slab screening levels defined using EPA's Vapor Intrusion Screening Level calculator will be used. See Section 5 for more details.

4.6 Evaluation of Data Gaps

Data gaps identified in this building-specific conceptual site model include background sources of VOCs that may be difficult to differentiate from vapor intrusion sources. The building contains over 40,000 products, many of which may contribute to background sources of VOCs, making it difficult to determine the true magnitude of subsurface vapor intrusion.

The migration pathways mentioned in Section 4.4 also pose a data gap as it is unknown if all pathways have been identified and inventoried from the building survey. Much of the sales floor is covered by product shelves and floor models, which make identifying cracks in the slab difficult. The concentrations of COCs in the vapor underneath the building slab are also unknown, though expected to be low based on the nearest available groundwater data.

The rate of air exchange into and out of the building may also pose a data gap. However, this risk is minimized as the building adheres to ASHRAE standards during store hours. Conclusions from the Outdoor Air Evaluation minimizes the potential risk in the outdoor air supply.

5. Sampling Plan

For this investigation at 811 East Arques, sampling will be focused on the sub-slab soil gas and potential migration pathways. Summa-passivated canisters will be used to sample the soil gas beneath the building from vapor pins as well as a sewer cleanout. The below section summarizes the sample locations, vapor pin installation, sample collection techniques, and evaluation considerations.

5.1 Sample Locations

Eight vapor pins are recommended to be installed in order to provide a representative sample of the soil gas beneath the slab. Two vapor pins shall be installed along the north side of the building, in the sales floor area and near the storage/receiving area; these locations are closest to the former source area. Four more vapor pins shall be installed on the sales floor, near the eastern and middle of the building for spatial coverage of the building. Two additional vapor pins shall be installed in the working spaces: one by the water fountains outside the women's restroom and one in the training room.

Additionally, the Property construction drawings show at least six sewer line cleanouts that access the main sewer line which runs under the bathrooms and janitorial closet. Locus will collect a grab sample from a sewer line cleanout to ascertain if impacted sewer lines below the water table are a source of vapor intrusion. On 20 May 2022, Locus performed another building walkthrough and identified a sewer cleanout to sample outside the store, by the gardening center. The sewer cleanout is located at ground level, flush to the concrete grade.

Approximate sampling locations are identified in Figure 7 and seen in Table 3, though locations may change depending on practicality and feedback from Lowe's.

5.2 Vapor Pin Installation

Vapor pins will be used to collect soil gas from immediately below the building slab. Vapor pins shall be installed using the 2015 *Advisory Active Soil Gas Investigations* guidance, which was jointly developed by California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (RWQCB) (EPA, 2015). Before installation, utilities will be cleared as well as reinforcement structures. Following clearance, vapor pins will be installed according to the Locus vapor pin Standard Operating Procedure (SOP) found in Appendix E. Care will be taken to avoid damaging areas with floor tiles by integrating a diamond hole saw among other tools. In areas where the floor may be frequently wet, like the bathroom, the floor cover will be sealed to prevent the cavity being filled up with water over time. Because the moisture barrier is located directly beneath the slab, drilling through the slab to install vapor pins may penetrate the barrier. When vapor pins are decommissioned, the hole will be sealed. The moisture barrier would be repaired by applying sealant deeper than the barrier, creating a seal at the moisture barrier interface. Further details are discussed in the SOP. The floor tiles will be replaced as needed.

5.3 Sewer Cleanout Sampling Preparation

The identified sewer cleanout sample location is accessible through an approximately 40-inch riser pipe that is flush-to-grade at sidewalk level. As there is riser, liquids are not in contact with the well cap. In preparation for sampling the sewer cleanout, the cap to the cleanout must be removed and replaced with an inflatable test plug to form a seal. A length of tubing will be installed on the test plug to ensure the sample is collected as close to the junction of the sewer line and riser pipe as possible, while avoiding liquids. Approximately 30 inches of tubing is anticipated for the outdoor sewer clean out location. After the test plug installation,

the sewer gas within the cleanout should be allowed to equilibrate approximately two hours before proceeding with sampling.

5.4 Sample Equipment and Collection

Grab samples will be collected from each of the aforementioned sampling locations in passivated one-liter, laboratory-certified clean Summa canisters by qualified field personnel. Canisters are stainless steel containers that are supplied under negative pressure. Once received from the laboratory, a pre-evacuated Summa canister can hold a high vacuum (i.e. > 30 inches of mercury) for up to 30 days. It should be used during this period to ensure appropriate vacuum during sampling.

5.4.1 Sewer Gas Sample Collection

After the test plug is prepared, sewer gas sampling will be in general accordance with summa canister sampling procedure found in Section 4.5.2 of the Vapor Work Plan (Locus, 2020). In addition, before sampling the sewer gas cleanout, a shut-in test will be implemented and the ambient air within sample tubing will be evacuated.

The 1-minute shut-in test will be conducted on the cannister and flow regulator associated with this sample location to ensure sufficient initial vacuum and that there will be no loss of vacuum during sample collection. After a successful shut-in test in which there is no noticeable loss of vacuum for the entire 1-minute period, the canister will then be attached to the previously installed test plug. The sample tubing will be purged briefly (no more than a few seconds) to remove ambient air from the line. The riser shall not be purged. Thereafter, samples will be collected per the Vapor Work Plan (Locus, 2020) as mentioned above.

5.4.2 Sub-slab Soil Gas Sample Collection

Before sub-slab soil gas sampling, a shut-in test, leak test, and purging will be conducted and documented. Purging and sampling will occur within a tracer gas shroud. Detailed procedures and equipment for soil gas sampling are included in Appendix F and are based on guidance from the *Advisory Active Soil Gas Investigations* (EPA, 2015).

5.4.3 Quality Control Samples

One field blank and one field duplicate will be collected each sampling day. Additional Quality Control Quality Assurance (QAQC) measures are within Section 4.6 of the Vapor Work Plan (Locus, 2020).

5.5 Sample Handling and Analysis

Samples will be labeled and collection documented on a chain of custody consistent with Section 3.3 of the Vapor Work Plan Quality Assurance Project Plan (QAPP) (Locus, 2020). Samples will be submitted to Eurofins Environment Testing Northern California for analysis of site-specific chemicals of concern by USEPA Method TO-15 for all samples. Sub-slab samples will also be analyzed for helium by ASTM D1946, as seen in Table 3.

After soil gas sample results are received, they will be compared with the soil gas screening levels seen in Table 4. The soil gas screening levels were derived applying an attenuation factor of 0.03 to the indoor air screening levels, also seen in Table 4. The indoor air screening values are equivalent to the Vapor Work Plan Table 4 long-term mitigation criteria; however, they are deemed as screening levels because their purpose is to assist in an initial evaluation of sub-slab concentrations. Where long-term criteria were not available for a parameter, short-term criteria were used, as noted.

5.6 Schedule

Each sampling location will be sampled twice, at least four months apart, to evaluate temporal variability. It is expected that the upcoming sampling events for proposed locations (as shown in Figure 7) will occur:

- Installation of vapor pins would occur within 21 days of Work Plan Addendum approval by EPA and approval by building owner, whichever comes last (anticipated third or fourth quarter 2022)
- First sampling event, concurrent with vapor pin installation, with approval by building owner.
- Second sampling event, four to six months after first sampling event, with approval by building owner.

Modifications to the above sampling program may be recommended, including potential changes to sampling locations and techniques. Recommendations would be based upon review of sampling results, and would be subject to EPA approval prior to those modifications being implemented.

6. References

Environmental Protection Agency Region 9, 2019, *CERCLA Docket No. 2018-09: Administrative Settlement Agreement And Order On Consent For Focused Feasibility Study, Removal Site Evaluation And Removal Action,* 15 March.

California Department of Toxic Substances Control, 2020, *Supplemental Guidance: Screening and Evaluating Vapor Intrusion. Draft for Public Comments.* February 2020.

Locus Technologies, 2003, *Results of Air Monitoring, 811 East Arques Avenue Site, Sunnyvale, California,* 6 January.

Locus Technologies, 2020, *Final Work Plan: Indoor Air / Vapor Intrusion Removal Site Evaluation and any Necessary Removal Action, Signetics Site, Sunnyvale, California*, 29 May.

Locus Technologies, 2021a, *Annual Groundwater Monitoring Report, January to December 2020, Signetics Site and Offsite Operable Unit, Sunnyvale, California*, 30 April.

Locus Technologies, 2021b, *Outdoor Air Evaluation, Triple Site, Signetics Site, and Offsite Operable Unit, Sunnyvale, California,* September 2021

Tables

TABLE 1
HVAC SYSTEM DETAILS
BUILDING SPECIFIC WORK PLAN ADDENDUM: 811 EAST ARQUES
SIGNETICS SITE, SUNYVALE, CALIFORNIA

System Name	RTU-1 (Computer Room)	RTU-2 (Vestibule)	RTU-3 (Office)	RTU Sales Area (4-18)	RTU-19, 20 (Storage/Receiving)
Area (square feet)	N/A	1380	3764	116,170	9820
Outdoor Air (cfm)	200	450	1680	29025	1474
Make/Model	LENNOX LCA036H	LENNOX LGA120H	LENNOX LGA120H	LENNOX LGA240H/180H	LENNOX LGA180H
Economizer	N/A	Fixed Enth (Integrated)	Fixed Enth (Integrated)	Fixed Enth (Non-Integrated)	Fixed Enth (Integrated)
Heating Type	None	Gas Furnace	Gas Furnace	Gas Furnace	Gas Furnace
Cooling Type	Packaged DX	Packaged DX	Packaged DX	Packaged DX	Packaged DX

Note: HVAC System details were compiled from construction drawings provided by Lowe's

TABLE 2
TCE CONCENTRATIONS IN OUTDOOR AIR
EPA AIR DATA
BUILDING SPECIFIC WORK PLAN ADDENDUM: 811 EAST ARQUES
SANTA CLARA COUNTY, CALIFORNIA

Station Address	Year	Total Observations	Observations Non-Detected	Mean Concentration ($\mu g/m^3$)	Max Concentration ($\mu g/m^3$)
120b N 4th St, San Jose	1986	13	0	1.745	4.409
160 Cuesta Dr., Mountain View	1986	16	1	1.233	3.011
120b N 4th St, San Jose	1987	16	0	1.314	4.194
160 Cuesta Dr., Mountain View	1987	24	6	0.578	1.613
160 Cuesta Dr., Mountain View	1988	23	14	0.255	0.860
1866 W San Carlos St, San Jose	1989	10	7	0.151	0.538
160 Cuesta Dr., Mountain View	1989	24	16	0.181	0.645
1866 W San Carlos St, San Jose	1990	30	22	0.973	15.593
160 Cuesta Dr., Mountain View	1990	24	19	0.110	0.645
1866 W San Carlos St, San Jose	1991	30	30	0.000	0.000
120b N 4th St, San Jose	1991	15	0	0.287	0.430
120b N 4th St, San Jose	1991	30	29	0.018	0.538
160 Cuesta Dr., Mountain View	1991	24	24	0.000	0.000
160 Cuesta Dr., Mountain View	1992	24	24	0.000	0.000
120b N 4th St, San Jose	1992	31	31	0.000	0.000
120b N 4th St, San Jose	1992	31	0	0.156	0.968
1866 W San Carlos St, San Jose	1992	31	31	0.000	0.000
1866 W San Carlos St, San Jose	1993	30	30	0.000	0.000
120b N 4th St, San Jose	1993	30	0	0.072	0.215
120b N 4th St, San Jose	1993	29	28	0.020	0.591
160 Cuesta Dr., Mountain View	1993	24	24	0.000	0.000
1866 W San Carlos St, San Jose	1994	13	12	0.116	1.506
120b N 4th St, San Jose	1994	31	0	0.076	0.269
120b N 4th St, San Jose	1994	29	23	0.113	0.699
160 Cuesta Dr., Mountain View	1994	24	23	0.092	2.205
120b N 4th St, San Jose	1995	30	0	0.095	0.161
120b N 4th St, San Jose	1995	30	18	0.229	0.807
160 Cuesta Dr., Mountain View	1995	22	21	0.020	0.430
120b N 4th St, San Jose	1996	31	0	0.127	1.774
120b N 4th St, San Jose	1996	31	29	0.031	0.538
160 Cuesta Dr., Mountain View	1996	31	30	0.016	0.484
120b N 4th St, San Jose	1997	27	0	0.096	0.645
120b N 4th St, San Jose	1997	30	30	0.000	0.000
160 Cuesta Dr., Mountain View	1997	29	25	0.482	7.581
120b N 4th St, San Jose	1998	29	0	0.089	0.269
120b N 4th St, San Jose	1998	30	30	0.000	0.000
160 Cuesta Dr., Mountain View	1998	30	29	0.016	0.484
120b N 4th St, San Jose	1999	23	0	0.108	0.269
120b N 4th St, San Jose	1999	29	28	0.028	0.807
160 Cuesta Dr., Mountain View	1999	28	21	0.119	0.538
120b N 4th St, San Jose	2000	29	0	0.098	0.430

TABLE 2
TCE CONCENTRATIONS IN OUTDOOR AIR
EPA AIR DATA
BUILDING SPECIFIC WORK PLAN ADDENDUM: 811 EAST ARQUES
SANTA CLARA COUNTY, CALIFORNIA

Station Address	Year	Total Observations	Observations Non-Detected	Mean Concentration ($\mu g/m^3$)	Max Concentration ($\mu g/m^3$)
120b N 4th St, San Jose	2000	30	30	0.000	0.000
160 Cuesta Dr., Mountain View	2000	2	2	0.000	0.000
910 Ticonderoga Drive	2001	24	24	0.000	0.000
120b N 4th St, San Jose	2001	28	0	0.177	0.484
120b N 4th St, San Jose	2001	31	31	0.000	0.000
910 Ticonderoga Drive	2002	30	29	0.020	0.591
158b Jackson St	2002	6	0	0.170	0.269
158b Jackson St	2002	6	6	0.000	0.000
120b N 4th St, San Jose	2002	9	0	0.125	0.161
120b N 4th St, San Jose	2002	10	10	0.000	0.000
910 Ticonderoga Drive	2003	29	28	0.009	0.269
158b Jackson St	2003	31	0	0.101	0.376
158b Jackson St	2003	31	29	0.017	0.269
910 Ticonderoga Drive	2004	31	30	0.010	0.323
158b Jackson St	2004	30	0	0.070	0.215
158b Jackson St	2004	30	30	0.000	0.000
Whisman Park On Easy Street	2004	19	13	0.105	0.538
910 Ticonderoga Drive	2005	31	30	0.009	0.269
158b Jackson St	2005	31	0	0.062	0.161
158b Jackson St	2005	31	29	0.017	0.269
Whisman Park On Easy Street	2005	31	31	0.000	0.000
910 Ticonderoga Drive	2006	30	30	0.000	0.000
158b Jackson St	2006	30	0	0.056	0.108
158b Jackson St	2006	30	30	0.000	0.000
910 Ticonderoga Drive	2007	30	30	0.000	0.000
158b Jackson St	2007	30	0	0.061	0.161
158b Jackson St	2007	52	51	0.006	0.323
910 Ticonderoga Drive	2008	28	7	0.054	0.215
158b Jackson St	2008	31	0	0.054	0.054
158b Jackson St	2008	60	4	0.076	0.215
158b Jackson St	2009	31	0	0.068	0.269
158b Jackson St	2009	52	29	0.043	0.215
158b Jackson St	2010	30	0	0.054	0.054
158b Jackson St	2010	61	13	0.063	0.161
22601 Voss Ave	2010	20	4	0.073	0.161
158b Jackson St	2011	32	0	0.055	0.108
158b Jackson St	2011	60	34	0.032	0.161
22601 Voss Ave	2011	62	41	0.021	0.108
158b Jackson St	2012	29	0	0.057	0.134
158b Jackson St	2012	59	54	0.007	0.110
22601 Voss Ave	2012	61	57	0.007	0.202

TABLE 2
TCE CONCENTRATIONS IN OUTDOOR AIR
EPA AIR DATA
BUILDING SPECIFIC WORK PLAN ADDENDUM: 811 EAST ARQUES
SANTA CLARA COUNTY, CALIFORNIA

Station Address	Year	Total Observations	Observations Non-Detected	Mean Concentration ($\mu g/m^3$)	Max Concentration ($\mu g/m^3$)
158b Jackson St	2013	31	0	0.054	0.054
158b Jackson St	2013	60	54	0.010	0.172
22601 Voss Ave	2013	60	60	0.000	0.000
1007 Knox Ave	2014	13	13	0.000	0.000
158b Jackson St	2014	29	0	0.054	0.054
158b Jackson St	2014	60	55	0.005	0.091
1007 Knox Ave	2015	27	25	0.004	0.065
158b Jackson St	2015	30	0	0.054	0.054
158b Jackson St	2015	60	51	0.005	0.070
1007 Knox Ave	2016	31	29	0.004	0.075
158b Jackson St	2016	30	6	0.051	0.188
158b Jackson St	2016	60	59	0.000	0.022
1007 Knox Ave	2017	31	30	0.004	0.129
158b Jackson St	2017	27	26	0.010	0.269
158b Jackson St	2017	54	54	0.000	0.000
1007 Knox Ave	2018	26	26	0.000	0.000
158b Jackson St	2018	31	31	0.000	0.000
158b Jackson St	2018	44	44	0.000	0.000
1007 Knox Ave	2019	26	26	0.000	0.000
158b Jackson St	2019	30	29	0.009	0.269
158b Jackson St	2019	30	29	0.011	0.328
1007 Knox Ave	2020	28	28	0.000	0.000
158b Jackson St	2020	29	28	0.001	0.032
158b Jackson St	2020	9	9	0.000	0.000
1007 Knox Ave	2021	29	29	0.000	0.000
158b Jackson St	2021	22	22	0.000	0.000
158b Jackson St	2021	29	27	0.003	0.048

Notes:

Data Retrieved from: www.epa.gov/outdoor-air-quality-data/monitor-values-report-hazardous-air-pollutants on February 26, 2022.

TABLE 3
SAMPLING LOCATIONS AND ANALYSIS
BUILDING SPECIFIC WORK PLAN ADDENDUM: 811 ARQUES
SIGNETICS SITE, SUNNYVALE, CALIFORNIA

Location	Location Type	Field Sample ID	Sample Purpose	Sample Method	Sample Analytical Method(s)	Sample Duration
Storage/Receiving Area Office	Vapor Pin	LOWES-VP-1	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Sales floor (North)	Vapor Pin	LOWES-VP-2	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Sales floor (Middle East)	Vapor Pin	LOWES-VP-3	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Sales Floor (Middle West)	Vapor Pin	LOWES-VP-4	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Sales Floor (South East)	Vapor Pin	LOWES-VP-5	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Sales Floor (South West)	Vapor Pin	LOWES-VP-6	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Office Space - Training Room	Vapor Pin	LOWES-VP-7	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Water Fountains Outside Women's Restroom	Vapor Pin	LOWES-VP-8	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
Sewer Cleanout	Sewer Cleanout	LOWES-CO-1	Regular	1-Liter Summa-passivated Canisters	USEPA Method TO-15	Grab
To be determined in field	Vapor Pin	To be determined in field	Duplicate	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab
To be determined in field	Not Applicable	To be determined in field	Field Blank	1-Liter Summa-passivated Canisters	USEPA Method TO-15, ASTM D1946	Grab

TABLE 4
SUB-SLAB SOIL GAS AND SEWER GAS EVALUATION CRITERIA
BUILDING SPECIFIC WORK PLAN ADDENDUM: 811 EAST ARQUES
SIGNETICS SITE, SUNNYVALE, CALIFORNIA

		Chloroform	1,1-Dichloroethene (1,1-DCE)	1,1,2-Trichlorotrifluoroethane (FREON 113)	1,1-Dichloroethane (1,1-DCA)	cis-1,2-Dichloroethene	1,1,1-Trichloroethane (TCA)	Trichloroethene (TCE)	Tetrachloroethene (PCE)	trans-1,2-Dichloroethene	Vinyl Chloride
	Indoor Air Screening Levels	53	70	22,000**	8	35**	1,000	3	2	350**	0.16
	Sub-Slab Soil Gas and Sewer Gas Screening Levels	1,767	2,333	733,333	257	1,167	33,333	100	67	11,667	5
	Eurofins TO-15 Reporting Levels TO-15 1-Liter Summa, as of May 2022	5.3	4.4	8.3	4.4	4.4	5.9	5.9	7.4	4.4	2.8

Notes:

All concentrations are reported in $\mu g/m^3$ (micrograms per cubic meter).

Screening levels are intended for the purpose of initial evaluation of sub-slab concentrations, and are based on long-term criteria unless marked with **.

Subslab criteria were defined using indoor air screening levels with a 0.03 attenuation factor, per EPA guidance.

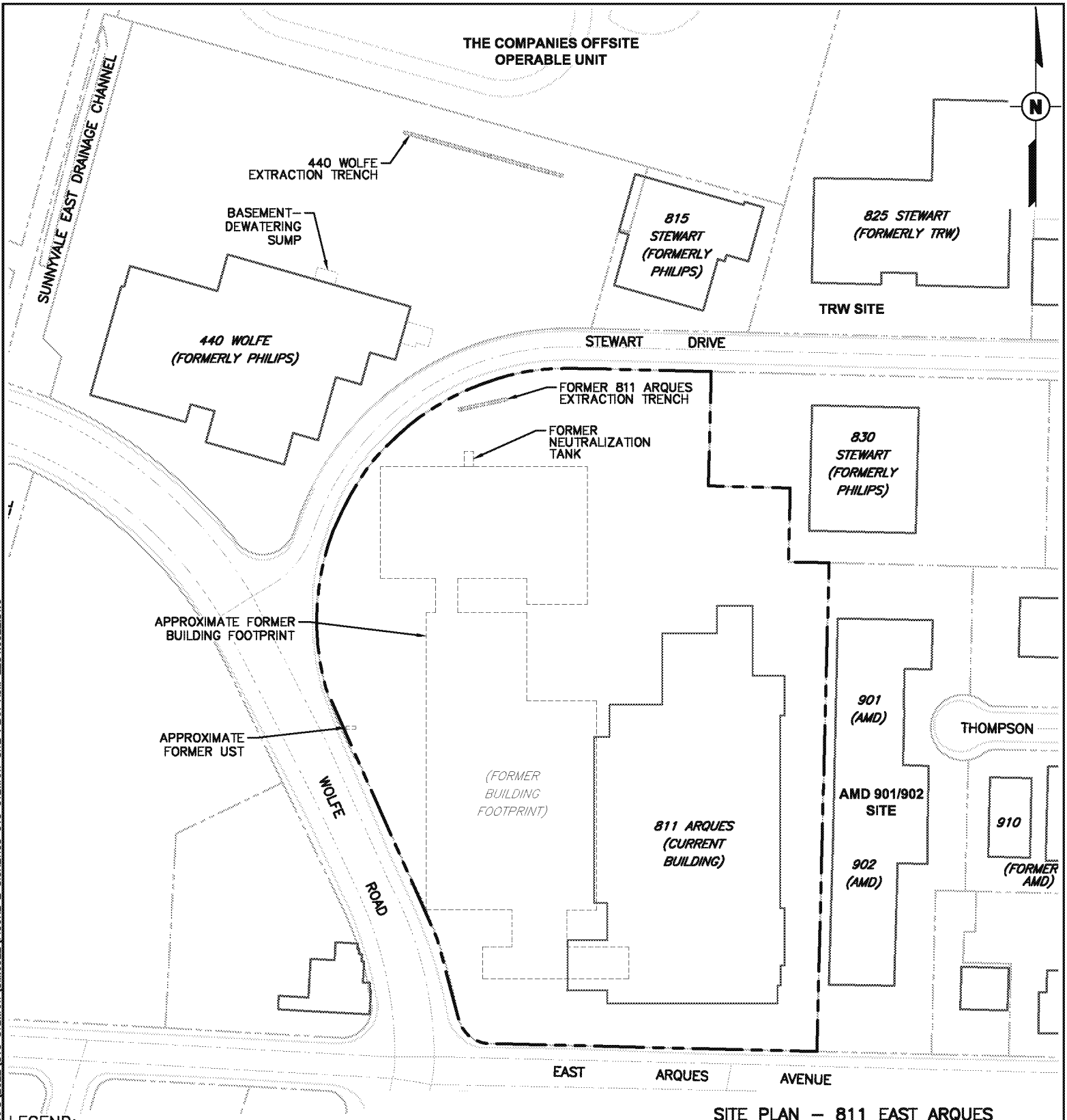
** Screening levels based on short-term criteria (for compounds without applicable long-term criteria) as defined in Table 4 of Final Work Plan: Indoor Air/Vapor Intrusion Removal Site Evaluation and any Necessary Removal

Figures

0 0.2 0.4mi

REV. 0 | 29 May 2020 | Final | DWN. BY: AT | CK'D BY: AE | AP'D BY: JWH

Figure 1. Site Location
Signetics Site
Sunnyvale, California



LEGEND:

811 EAST ARQUES SITE BOUNDARY

REFERENCES:

1. LINEWORK FROM SANTA CLARA COUNTY INFORMATION SERVICES DEPARTMENT AND THE ASSESSORS OFFICE, COUNTYWIDE GIS MAP DATA AVAILABLE TO COUNTY DEPARTMENT, ITS PARTNERS AND THE PUBLIC AND THE CITY OF SUNNYVALE, CALIFORNIA GIS DATA, COPYRIGHT 2018.
2. SATELLITE IMAGERY U.S.G.S. EARTH EXPLORER™. THE ORTHOIMAGERY WAS EVALUATED BY THE U.S.G.S. AND MEETS THE NATIONAL MAP ACCURACY STANDARDS (95% CONFIDENCE). REPORT DATE JULY 24, 2015, COPYRIGHT 2018.

SITE PLAN – 811 EAST ARQUES
SIGNETICS SITE
SUNNYVALE, CALIFORNIA

PREPARED FOR

PHILIPS
SEMICONDUCTORS

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	07/20	ISSUED FOR STEWART DRIVE REPORT	AJK	NL	AEG

Locus TECHNOLOGIES

0 200 400
SCALE IN FEET

DRAWING NO. 27-006-E284

FIGURE 2

FILE NAME: Z:\LOCUS.TEC\PHILIPS SUNNYVALE\SITEMAPS\2022\815 STEWART\SM.0322\FIGURE 2 SIGNETICS 815 STEWART SITE PLAN ASM E284.0322.DWG

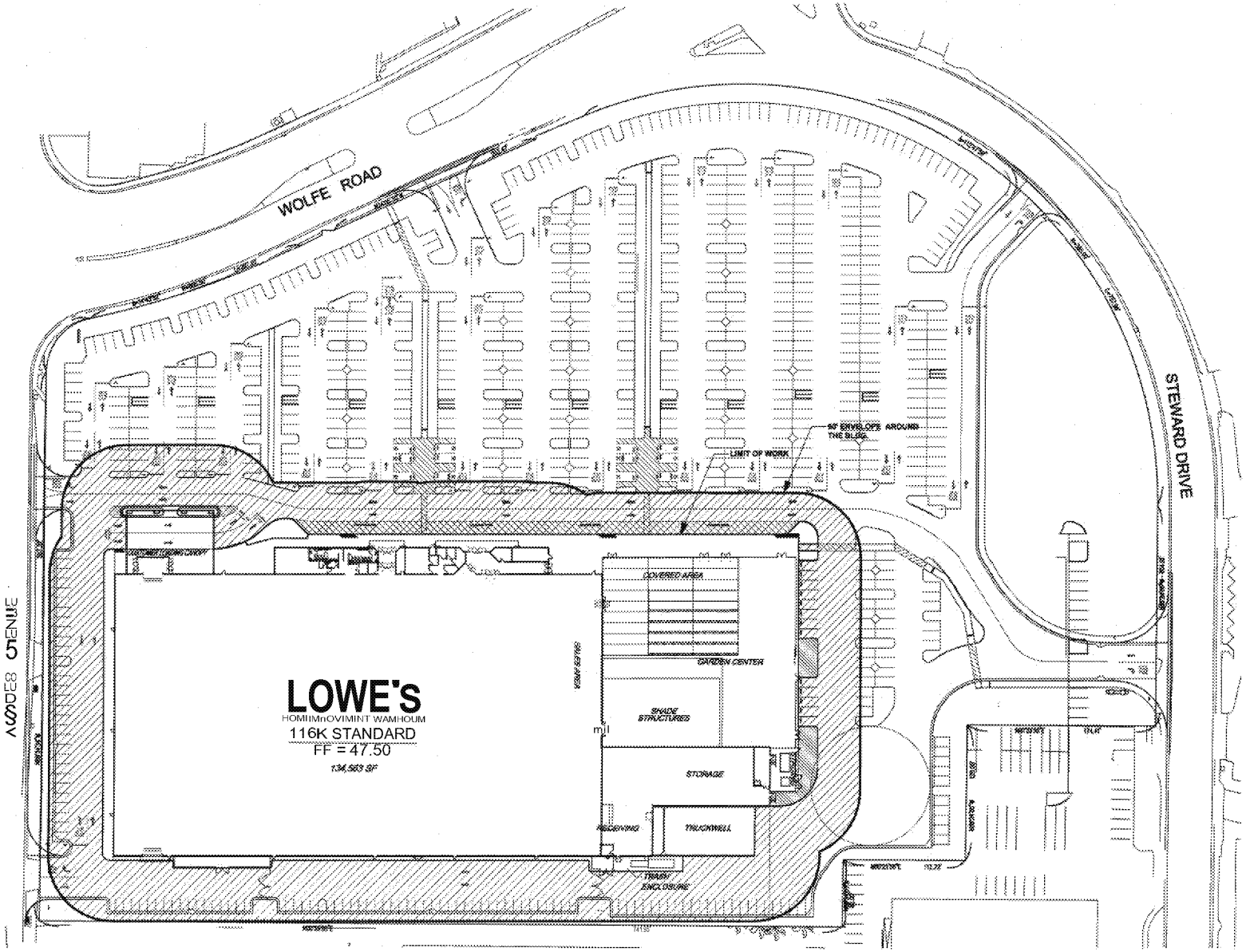


Figure 3. Current Site Layout
811 East Arques, Sunnyvale, California
Drawings provided by Lowe's

GENERAL NOTES:

1.1 SEE A1.1 FENCE OR MASONRY
2.1 VERT. FENCE OR CORE
3.1 AND 3 ACTUAL MINIMUM OPENING (CLEAR DISTANCE REQUIRED)
4.1 ALL DIMENSIONS TO FINISHED FACE OF WALL OR MATERIAL OR AS CONSTRUCTION NOTED.
5.1 SEE WALL TYPE LEGEND FOR WALL CONSTRUCTION.
6.1 A.F.F. ABOVE FINISHED FLOOR (SALES FLOOR).
7.1 SEE SHEET A-6.2 FOR DOOR SCHEDULE
8.1 SEE SHEET A-7.0 FOR GATE SCHEDULE
9.1 SEE STRUCTURAL DRAWINGS FOR FOUNDATION, SLAB CONTROL JOINT INFORMATION
10.1 FOR LOCATION OF FIRE EXTINGUISHERS REFER TO FIRE PROTECTION SHEETS
11.1 PROVIDE (2) 5" PIPE BOLLARDS AT GAS METER IF REQUIRED. SEE SITE, STRUCTURAL, AND PLUMBING PLANS FOR LOCATION.
12.1 ALL UNDERGROUNDED PIPING SHALL MEET ALL GUIDELINES FOR ACCESSIBILITY AND ARE TO BE PAINTED SPRAY YELLOW.
13.1 SPACE ALL STEEL STUDS ACCORDING TO MANUFACTURER'S LIGHTING HEIGHT (U.O.N.)
14.1 SEE GENERAL & FOUNDATION DETAILS FOR FRAMING SPACE POSTS TO AVOID FOOTHOUR ANCHOR FOOTINGS.
15.1 NO GAP LARGER THAN 2" IS PERMITTED AT DRAIN SAW CUTTED, GATES, ETC.
16.1 MOUNT ALL SWING GATES ON CONCRETE OR STRUCTURE.
17.1 SEE STRUCTURAL DWG FOR CONC. PANEL JOINT LOCATION.
18.1 ALL STAIR NOSING DETAILS AND INTERIOR HANDRAILS, SEE SPECIFIED, SHOULD RECEIVE TEXAS FELLED INSULATION.
19.1 AT CUSTOMER LOADING CANOPY AND CANOPY DETAIL CONCRETE AND JOINT ALL EXPOSED METAL STEEL AND METAL BLOCK DRAWING SHEETS (VELCRO SPACING)

KEYNOTES

3.01 CHAIN-LINK FENCE WITH BLACK VINYL COATED TWISTED GATE SHEET A-7.0 AND SPECIFICATION SECT. 032000.
2.02 STL. TUBE FENCE WITH SECURITY REACHING UP TO 8'-0" ABOVE FINISHED GRADE (SEE SHEET A-7.0 AND SPECIFICATION SECT. 055000).
2.03 STL. TUBE GATE (SEE SHEET A-7.0, FOR SIZE AND TYPE AND SPEC. SECT. 055000).
2.04 PRECAST GRADE (SEE DETAIL 1/S-2.0, SHEET P-1.1 AND SPEC. SECT. 16421).
2.05 48" HIGH x 75' LONG GUARDRAIL/FENCE (SEE DETAIL 9/S-3.0).
2.01 CONCRETE RETAINING WALL W/48" HIGH CONCRETE CURB (SEE SHEETS S/1.2 AND S/1.0).
3.02 CONCRETE SIDEWALK.
3.03 TRANSITION ZONE @ CURBCUTS (SEE 18/A-5.0).
3.04 CONCRETE FILLED SLAVES (SEE STRUCTURAL & CIVIL DRAWINGS).
3.05 CONCRETE TRANSFORMER PAD. VERIFY SIZE & LOCATION PRIOR TO POURING (SEE SHEETS A-4.0 & S-1.0).
3.06 CONCRETE GENERATOR PAD VERIFY SIZE & LOCATION PRIOR TO POURING (SEE SHEET A-4.0 & S-1.0).
3.09 CONCRETE SLAB ON GRADE (SEE STRUCTURAL DRAWINGS).
3.06 SONIC CEMENT WITH SMOOTH FOR (SEE SPECIFICATION SECT. 079200)
3.09 CONCRETE STAIRS (SEE SHEETS A-5.0 AND S-3.1).
3.10 CONVENIENCE CONTROL JOINT (SEE SHEET A-1.0).
4.01 BUILDING EXPANSION JOINT
4.02 CONC. PANEL JOINT
4.05 SINGLE SCORED SECTION FACE (SEE)
4.04 STEEL PLT. (SEE PLANS).
4.05 SONIC PANEL RECESS, 6" WIDE x 3/4" DEEP
5.02 PLANTER ONLY ACCENT BLOCK.
4.07 SINGLE SCREED SPLIT FACE CMU
5.01 METAL DOWNSPOUTS RAINHEAD.
5.02 METAL GUTTER, PAINTED.
5.03 STEEL CANOPY (SEE SHEETS A-2.1, A-2.2, A-2.3 AND S-4.2), PAINTED.
5.04 STEEL TUBE, PAINTED.
5.05 ROOF ACCESS LADDER, PAINTED (SEE SHEET A-7.0)
5.06 FORKLIFT DAMAGE PREVENTION BARS- 16'-0"L, W/ BOTT. @ 9'-8" A.F.F. (SEE SHEET A-1.2).
5.07 FORKLIFT DAMAGE PREVENTION BARS- 7'-0"L W/ BOTTOM @ 9'-4" A.F.F. (SEE SHEET A-1.2).
5.08 FORKLIFT DAMAGE PREVENTION BARS- 14'-0"L W/ BOTTOM @ 13'-6" A.F.F. (SEE SHEET A-1.2)
5.09 PROVIDE 6" PIPE BOLLARDS (SEE DETAIL 3/S-3.1)- RUBBER AND LOCATIONS PER ARCHITECTURAL PLANS AND DOOR DETAILS.
5.10 PROVIDE 8" PIPE BOLLARDS (SEE DETAIL 2/S-3.1)- NUMBER AND LOCATIONS PER ARCHITECTURAL PLANS AND DOOR DETAILS.
5.11 PROVIDE 6" PIPE BOLLARDS (SEE DETAIL 3/S-3.1) AT GAS METER NUMBER AND LOCATION PER PLUMBING PLANS
5.12 STEEL TRANSFORM COVER, PAINTED (SEE DETAIL 15/A-3.0)
8.01 DARK GUARD - P.T. 2x10 STAINED LIGHT GRAY, MOUNTED 6" A.F.F. TO BOTTOM WITH 1/2"Ø4" EXP. BOLTS COUNTERSUNK @ 24" O.C.
6.02 TELEPHONE BOARD - 4x8 SHEET PLYWOOD @ 6" A.F.F. WITH INTUMESCENT COATING ON ALL SIDES PRIOR TO INSTALLATION (SEE SPECIFICATION SECTION 078123).
7.01 ACRYLIC FINISH SYSTEM, 20 3/4"S, HORIZONTOBOR ON SMOOTH FACED CMU WITH FLUSH JOINTS
7.02 EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
7.03 STANDING SEAM ARCHITECTURAL METAL ROOF PANEL
7.04 PRE-FINISHED METAL COPING.
7.05 SEPARATION - EIFS (SEE SHEETS A-2.1, A-3.2 AND A-3.3)
7.06 CORNICE - E.I.F.S. WITH PRE-FINISHED METAL COPING (SEE SHEET A-2.1, A-3.2 AND A-3.3)
7.07 PRE-FINISHED METAL FASCIA.
8.01 SWITCHGEAR DOORS.
8.02 HOLLOW METAL DOOR AND FRAME TYPICAL PAINTED
8.03 ALUMINUM STOREFRONT.
8.04 VERT. SLIDER DOOR (SEE SHEET A-6.2).
8.05 IMPACT DOOR (FACTORY FINISHED), STEEL TUBE FRAME PAINTED.
9.01 4'x6'x8'(1830)(900) PATH, AS DIMENSIONING SHALL MEET ALL GUIDELINES FOR ACCESSIBILITY TO BE PAINTED OSHA YELLOW.
9.02 12" INCH (1370)PS PAINTED WHITE
10.01 ALUMINUM AWNING - 30'-0"x5'-0" - MOUNT @ 10'-4" A.F.F. (SEE SPECIFICATION SECT. 105100).
10.02 ALUMINUM CANOPY - 5'-0"x5'-0" - MOUNT @ 6'-0" A.F.F. (SEE SPECIFICATION SECT. 105200).
11.01 TRASH COMPACTOR - FURNISHED AND INSTALLED BY OWNER (LOWE'S).
11.02 DOCK LEVELER - EDGE-OF-DOCK MOUNTED (SEE SPECIFICATION SECT. 111460).
11.03 DOCK LEVELER - PIT-MOUNTED (SEE SHEET A-5.0 AND SPEC. SECT. 111460).
11.04 DOCK SHELTER (SEE SHEET A-2.1 AND SPECIFICATION SECT. 111600)
13.01 SHADE STRUCTURE - OPAL POLYCARBONATE PANELS OVER STRUCTURAL FRAME SYSTEM (SEE SPECIFICATION SECT. 133100).

3 BOLLARDS AT GARDEN CENTER GATES 2 & 3
SCALE: 1/8"=1'-0"

2 TYP. UNOB. PATH PAINTING @ DOORS
SCALE: 1/8"=1'-0"

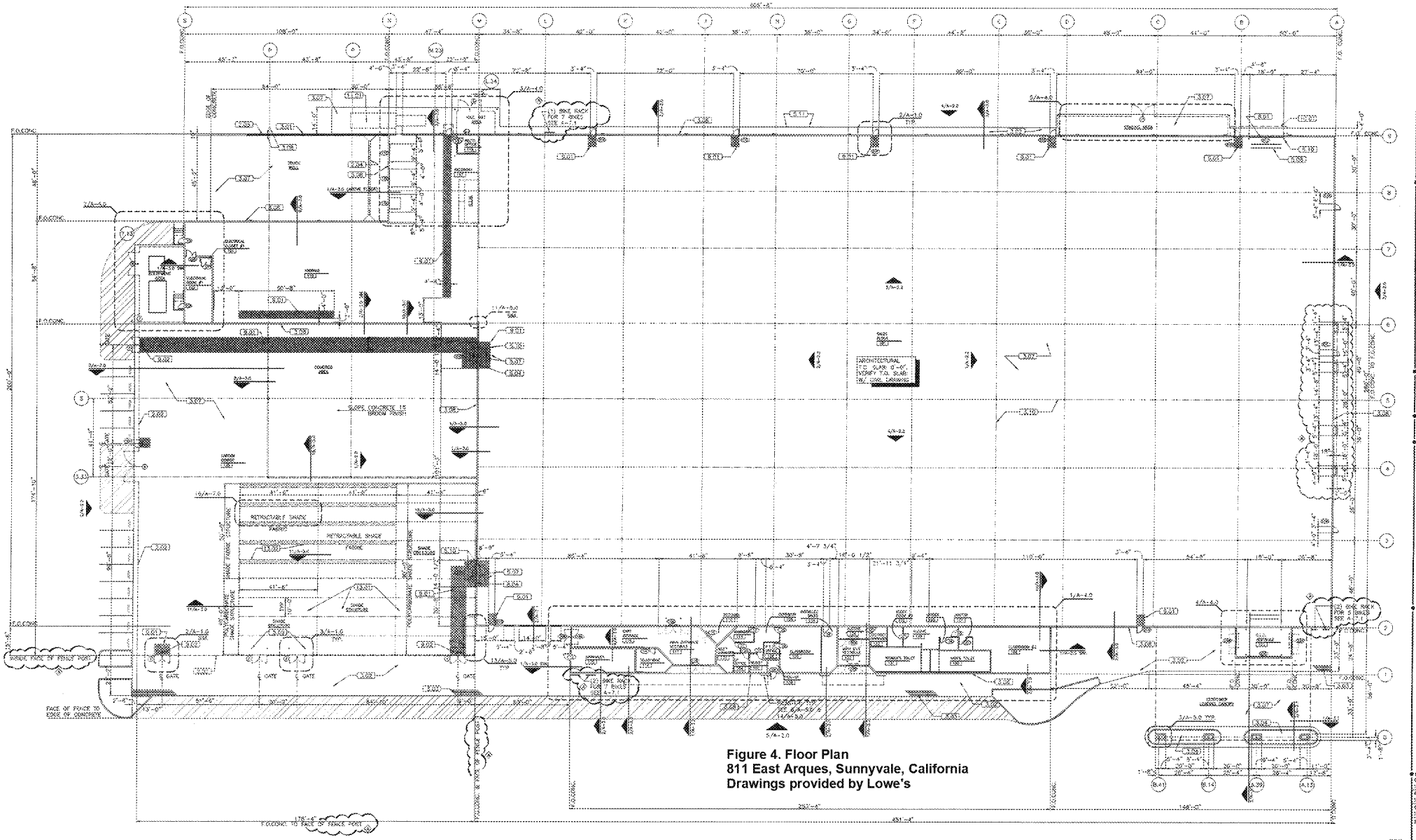


Figure 4. Floor Plan
811 East Arques, Sunnyvale, California
Drawings provided by Lowe's

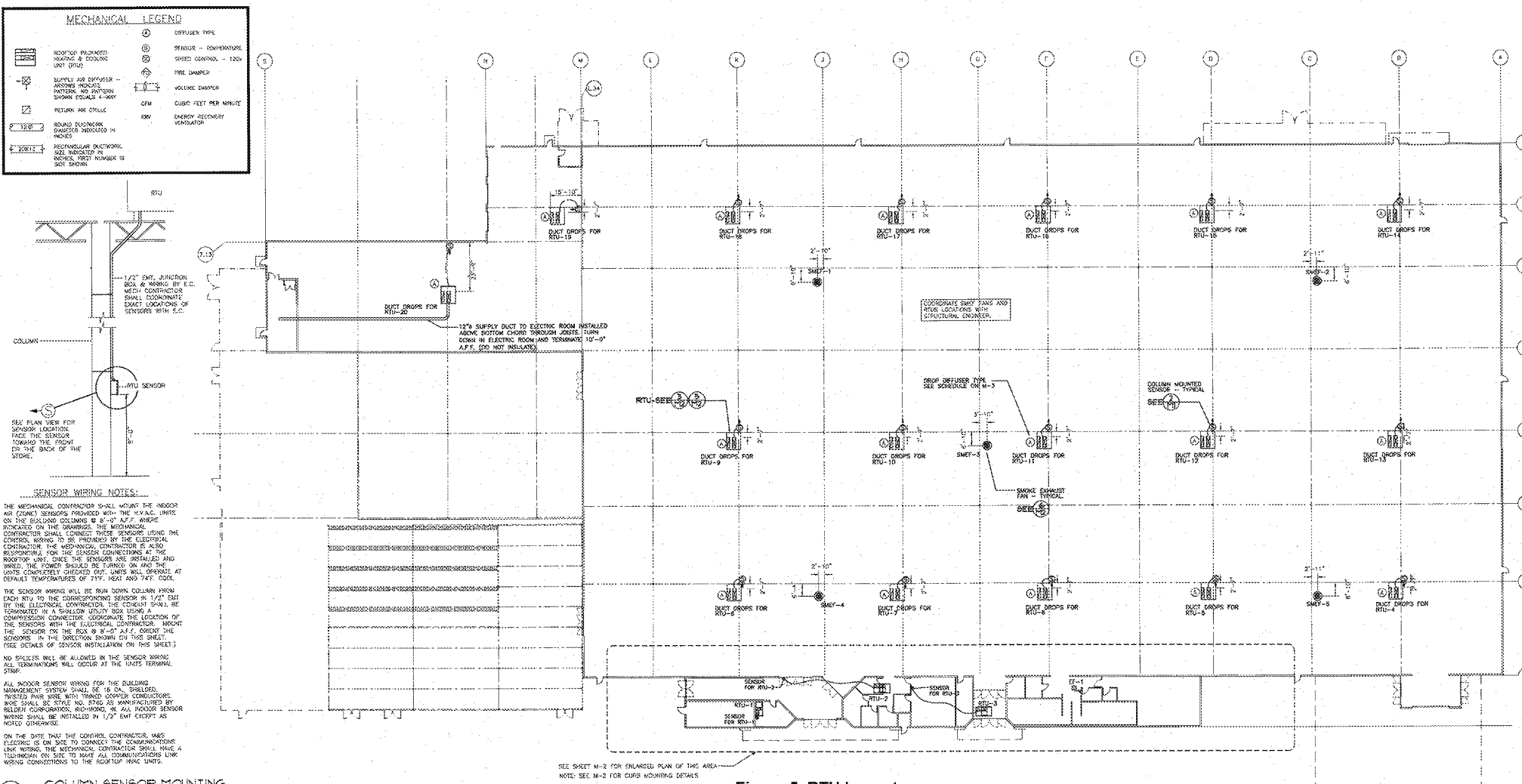
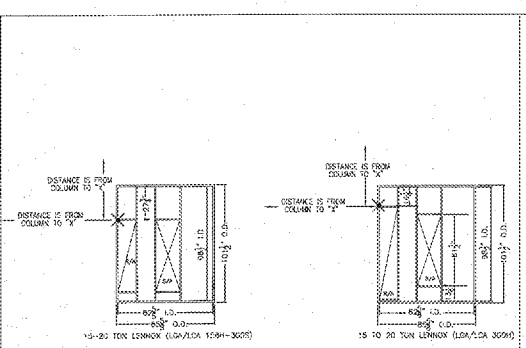
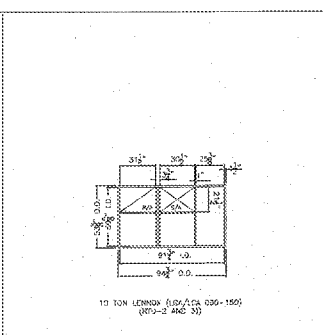


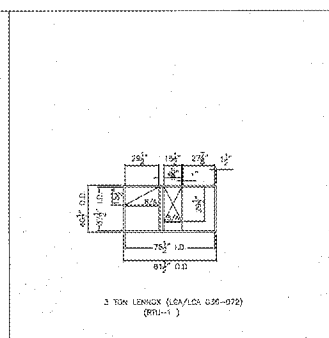
Figure 5. RTU Layout
811 East Arques, Sunnyvale, California
Drawings provided by Lowe's



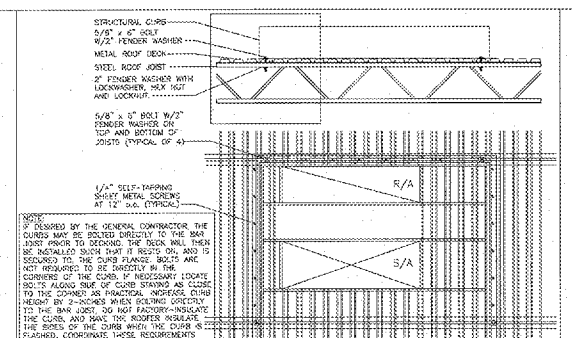
3 M1 15-20 TON CURB DIMENSIONS
SCALE 1/4"=1'-0"



4 M1 10 TON CURB DIMENSIONS
SCALE 1/4"=1'-0"



5 M1 3 TON CURB DIMENSIONS
SCALE 1/4"=1'-0"



6 M1 TYPICAL CURB FASTENING DETAIL
SCALE 1/2"=1'-0"

CURB NOTES

1. GENERAL CONTRACTOR SHALL PURCHASE AND MECHANICAL CONTRACTOR SHALL INSTALL ALL HVAC RELATED ROOF CURBS AND SHALL VERIFY THE EXACT LOCATIONS BASED ON BRAND PRIOR TO INSTALLATION. PRECISE LOCATION IS REQUIRED TO MAINTAIN COORDINATION WITH OTHER TRADES AS REQUIRED BY THESE DRAWINGS.
2. THE DIMENSIONS SHOWN ON THESE PLANS LOCATE THE DUCT DROPS. THE LOCATION OF THE DROPS ARE CRITICAL TO OVERALL PROJECT COORDINATION. THE LOCATIONS OF THE OUTSIDE EDGES OF THE CURBS WILL VARY DEPENDING ON THE RTU MANUFACTURER SELECTED.
3. GENERAL CONTRACTOR SHALL CONTACT CURB SUPPLIER USING INFORMATION PROVIDED ON SHEET M-3 FOR DELIVERY AND SIZING INFORMATION REQUIRED TO COORDINATE THIS PROJECT.
4. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING AND REPLACING ALL CURBS, DECKING, AND EQUIPMENT OF OTHER TRADES THAT RESULT FROM ANY CURBS NOT PROPERLY LOCATED ACCORDING TO THE REQUIREMENTS INDICATED BY THESE DRAWINGS.

NOTE:
IF DESIRED BY THE GENERAL CONTRACTOR, THE CURBS MAY BE BOLTED DIRECTLY TO THE BAR JOIST PRIOR TO DECKING. THE DECK WILL THEN BE INSTALLED SUCH THAT IT RESTS ON, AND IS SECURED TO, THE CURB FLANGE. BOLTS ARE NOT REQUIRED TO BE DIRECTLY IN THE CORNERS OF THE CURB. IF NECESSARY LOCATE BOLTS ALONG SIDE OF CURB STAGGED AS CLOSE TO THE CORNER AS PRACTICAL. INCREASE CURB HEIGHT BY 2-INCHES WHEN BOLTING DIRECTLY TO THE BAR JOIST. DO NOT FACTORY-INSULATE THE CURB, AND HAVE THE ROOFER INSULATE THE SIDES OF THE CURB WHEN THE CURB IS FLASHED. COORDINATE THESE REQUIREMENTS WITH ABS WHEN ORDERING.

SHEET NOTES

1. SEE GENERAL NOTES ON M-3.
2. COORDINATE INSTALLATION WITH ELECTRICAL SUB-CONTRACTOR (SEE CONTROL WIRING NOTES ON SHEET E-1). THE ELECTRICAL SUB-CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE COMMUNICATIONS LOOP.)
3. COORDINATE INSTALLATION WITH THE PLUMBING SUB-CONTRACTOR (IF REQUIRED). THE PLUMBING SUB-CONTRACTOR IS RESPONSIBLE FOR INSTALLING GAS PIPING, SEE SHEET P-1. ALSO, IF REQUIRED, THE PLUMBING SUB-CONTRACTOR IS RESPONSIBLE FOR INSTALLING CONDENSATE PIPING, SEE SHEET P-3.)
4. COORDINATE INSTALLATION WITH THE GENERAL CONTRACTOR (SEE "CURB NOTES" ON THIS SHEET.)

REVISIONS
DATE | DESCRIPTION

PAGE
INTERWORKS, PA

Nadel

LOWE'S H.I.W.
1535 FARADAY AVE.,
CARLSBAD, CA
760.804.6000 (V) 760.9

MECHANICAL EQUIPMENT PLAN
LOWE'S OF SUNNYVALE

CRITERIA
ISSUE DATE: 03.01.
PERMIT SET:
ISSUE DATE:
CONSTRUCTION SET
ISSUE DATE:
DRAWING NUMBER

M-1

ED_013761_00000142-00046

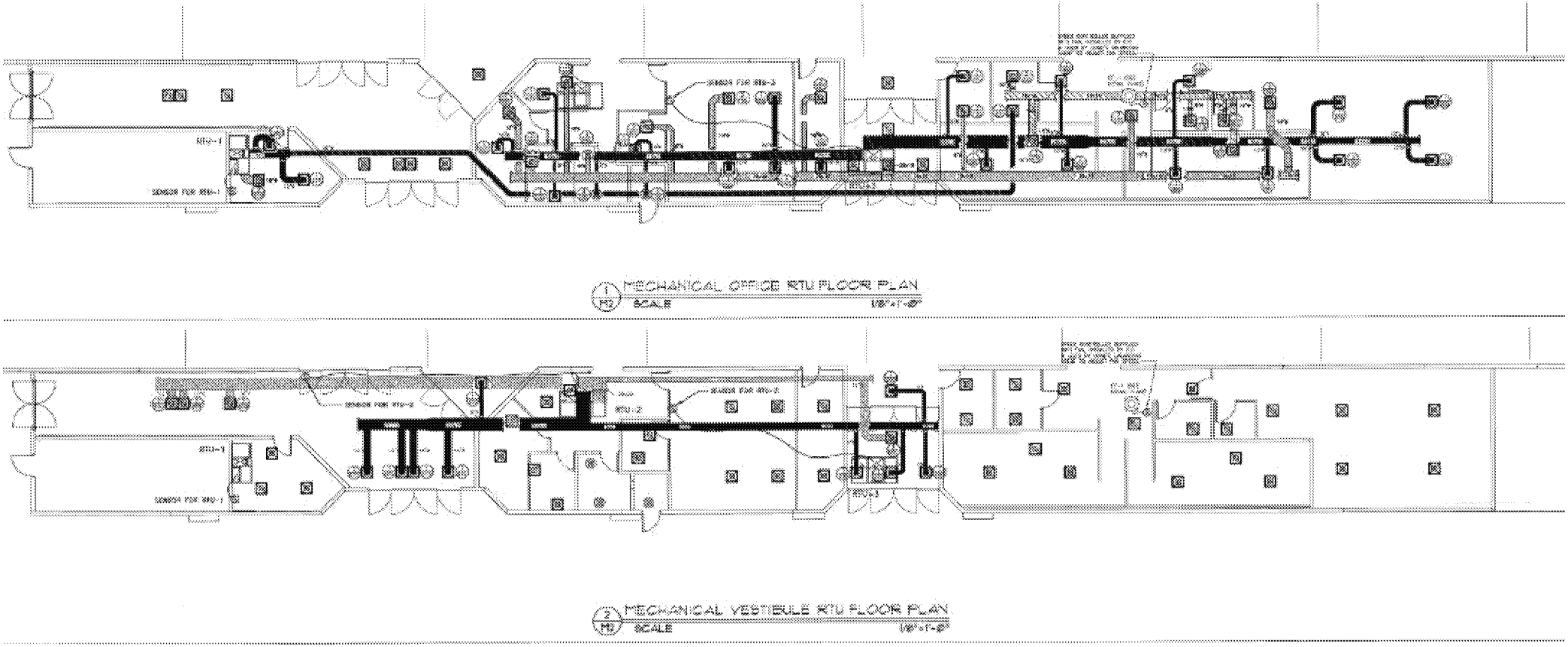
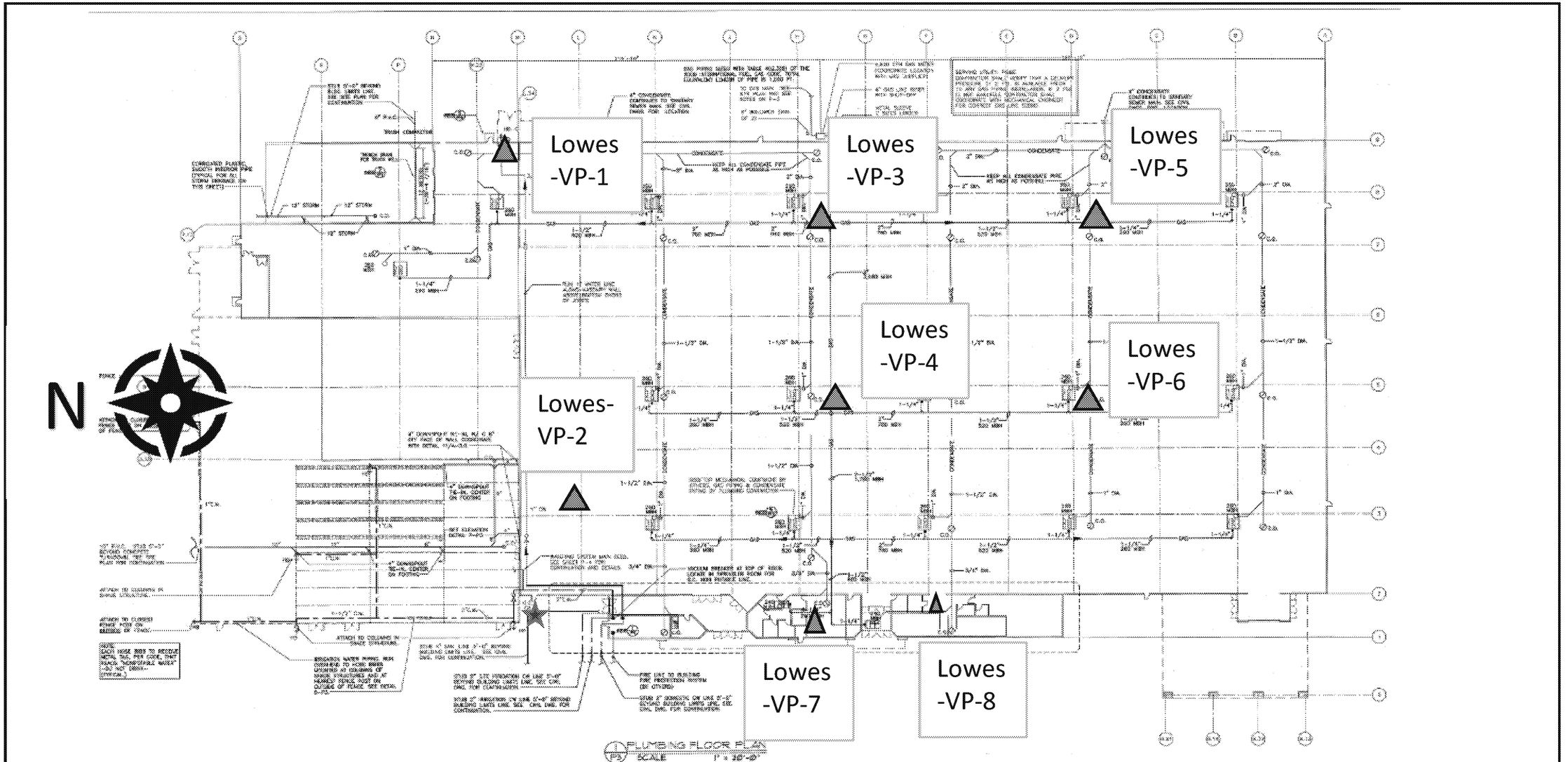


Figure 6. Enlarged RTU Layout
811 East Arques, Sunnyvale, California
Drawings provided by Lowe's

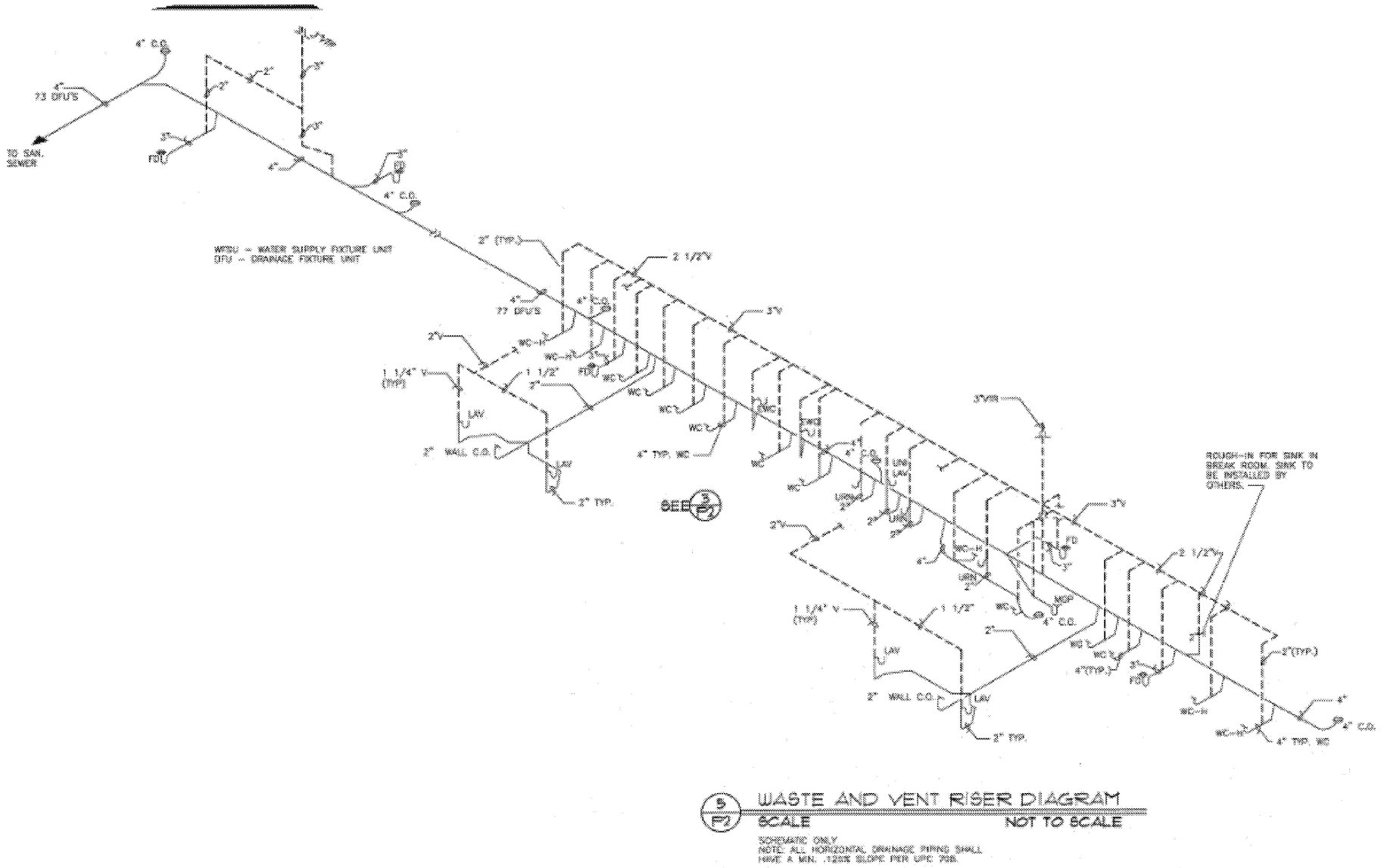
FIGURE 7
BUILDING LAYOUT WITH PROPOSED SAMPLE LOCATIONS
811 EAST ARQUES, SUNNYVALE, CALIFORNIA
SIGNETICS SITE



NOTES

1. Locations are approximate.

FIGURE 8
WASTE AND VENT RISER DIAGRAM
811 EAST ARQUES, SUNNYVALE, CALIFORNIA
SIGNETICS SITE



9/P7 WASTE AND VENT RISER DIAGRAM
SCALE NOT TO SCALE

SCHEMATIC ONLY
NOTE: ALL HORIZONTAL DRAINAGE PIPING SHALL HAVE A MIN. 1/2IN SLOPE PER 0FC RUN

Appendix A:

Relevant Groundwater Figures

U.S. HWY 101 (BAYSHORE FREEWAY)
GREENLAKE
HIDDENLAKE DRIVE
LAKEFAIR DRIVE
MEADOWLAKE DRIVE
LAKEHAVEN DRIVE
LAKEWOOD DRIVE
LAKEMUIR DRIVE
AHWANEE AVENUE
SUNNYVALE EAST DRAINAGE CHANNEL
FAIR OAKS AVENUE
SAN JUNIPERO DRIVE
SAN MATEO COURT
SAN PABLO AVENUE
SAN RAMON AVENUE
SAN PETRONIO AVE.
ALMADEN AVE.
ALVARADO AVE.
BLYTHE AVE.
SAN MIGUEL SCHOOL
CALIENTE DRIVE
AMADOR AVENUE
SAN PAULA AVENUE
BARSTOW COURT
SAN RAFAEL STREET
COACHELLA AVENUE
SAN PEDRO AVE.
CARMEL AVE
SAN JUAN DRIVE
SAN JULIE ST.
SAN JUSTO CT.
SAN LUISITO WAY
SAN MIGUEL AVENUE
SAN PATRICIO AVE.
BERNAL AVENUE
JOHANNA AVENUE
DUANE AVENUE
COTATI TERRACE
CHAS. FRAKER
DEGUIGNE DRIVE
570 BRITTON
BRITTON AVENUE
915 (FORMERLY AMD)
GALT TERRACE
GALT
GRIDLEY
AMD 915 SITE
FILLMORE
SAN MARCOS
SANTA REAL AVE.
BLEACHERS
SAN LORENZO
TENNIS COURTS
THE COMPANIES OFFSITE OPERABLE UNIT
TRW SITE
FORMERLY TRW
825 STEWART (FORMERLY TRW)
813 (FORMERLY PHILIPS)
440 WOLFE (FORMERLY PHILIPS)
STEWART
830 STEWART (FORMERLY PHILIPS)
441 DE GUIGNE
SIGNETICS SITE
925 (AMD)
901 (AMD)
AMD 901/902 SITE
THOMPSON PLACE (FORMERLY AMD)
910
920
926
930
811 ARQUES (FORMERLY PHILIPS)
902 (AMD)
WOLFE ROAD
EAST ARQUES AVENUE
SUNNYVALE EAST DRAINAGE CHANNEL
E. MAUDE AVE.
EXTRACTION TRENCH
MONITORING WELL REPORT FOR LOCUS TECHNOLOGIES AT THE OOU AND SIGNETICS WELL SITES IN SUNNYVALE, CALIFORNIA DATED DECEMBER 20, 2018 AND PROVIDED BY CROSS LAND SURVEYING, INC.

N

REFERENCES:

1. MONITORING WELL REPORT FOR LOCUS TECHNOLOGIES AT THE OOU AND SIGNETICS WELL SITES IN SUNNYVALE, CALIFORNIA DATED DECEMBER 20, 2018 AND PROVIDED BY CROSS LAND SURVEYING, INC. ADDITIONAL WELL LOCATIONS SURVEYED BY CROSS LAND SURVEYING, INC., WELL AND WELL POINT REPORTS DATED SEPTEMBER 11, 2020 AND DECEMBER 11, 2020.
2. LINEWORK FROM SANTA CLARA COUNTY INFORMATION SERVICES DEPARTMENT AND THE ASSESSORS OFFICE, COUNTYWIDE GIS MAP DATA AVAILABLE TO COUNTY DEPARTMENT, ITS PARTNERS AND THE PUBLIC AND THE CITY OF SUNNYVALE, CALIFORNIA GIS DATA, COPYRIGHT 2018.
3. SATELLITE IMAGERY U.S.G.S. EARTH EXPLORER™. THE ORTHOIMAGERY WAS EVALUATED BY THE U.S.G.S. AND MEETS THE NATIONAL MAP ACCURACY STANDARDS (95% CONFIDENCE). REPORT DATE JULY 24, 2015, COPYRIGHT 2018.
4. WHERE THERE WAS DUPLICATE SAMPLES TAKEN AT WELLS, THE HIGHER VALUE IS USED FOR CONTOURING.
5. AMD 915 AND AMD 901/902 SITE CONTOURS ARE BASED ON PUBLISHED 2020 ANNUAL GROUNDWATER MONITORING REPORTS BY OTHERS.

LEGEND:

- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- APPROXIMATE OPERABLE UNIT BOUNDARIES

COLOR INDICATES WELL OWNER/SITE:

- SIGNETICS SITE
- AMD 901/902 SITE
- TRW MICROWAVE SITE
- AMD 915 SITE
- THE COMPANIES OFFSITE OPERABLE UNIT

- 44.26 GROUNDWATER ELEVATION IN FEET (FT. MSL, NAVD88)
- 33* GROUNDWATER ELEVATION NOT USED IN CONTOURING
- NM DENOTES WELL NOT MEASURED
- NA ELEVATION DATA NOT AVAILABLE
- 44 GROUNDWATER ELEVATION CONTOUR IN FEET MSL, DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
7	02 FEB 21	ADDED WELLS FROM SURVEY S158A, S159 AND S160A	AJK	NJL	JWH
6	20 DEC 20	ADDED WELLS FROM SURVEY T9-1, T9-2 AND T9-3	AJK	NJL	JWH
5	11 JAN 18	ADDED WELLS FROM SURVEY 56-S, 57-S, 56-D, 57-D, 56-DD, 57-DD	NJL	NJL	JWH
4	17 JAN 17	ADDED WELLS FROM SURVEY & SEALED WELLS/PIEZOMETERS: P2010A, P2012S1M, P2012S2, P2022S2, P2012S3, S068A, S069A, S068S1, S068S1	AJK	NJL	JWH

LOCUS TECHNOLOGIES

0 400 800
SCALE IN FEET

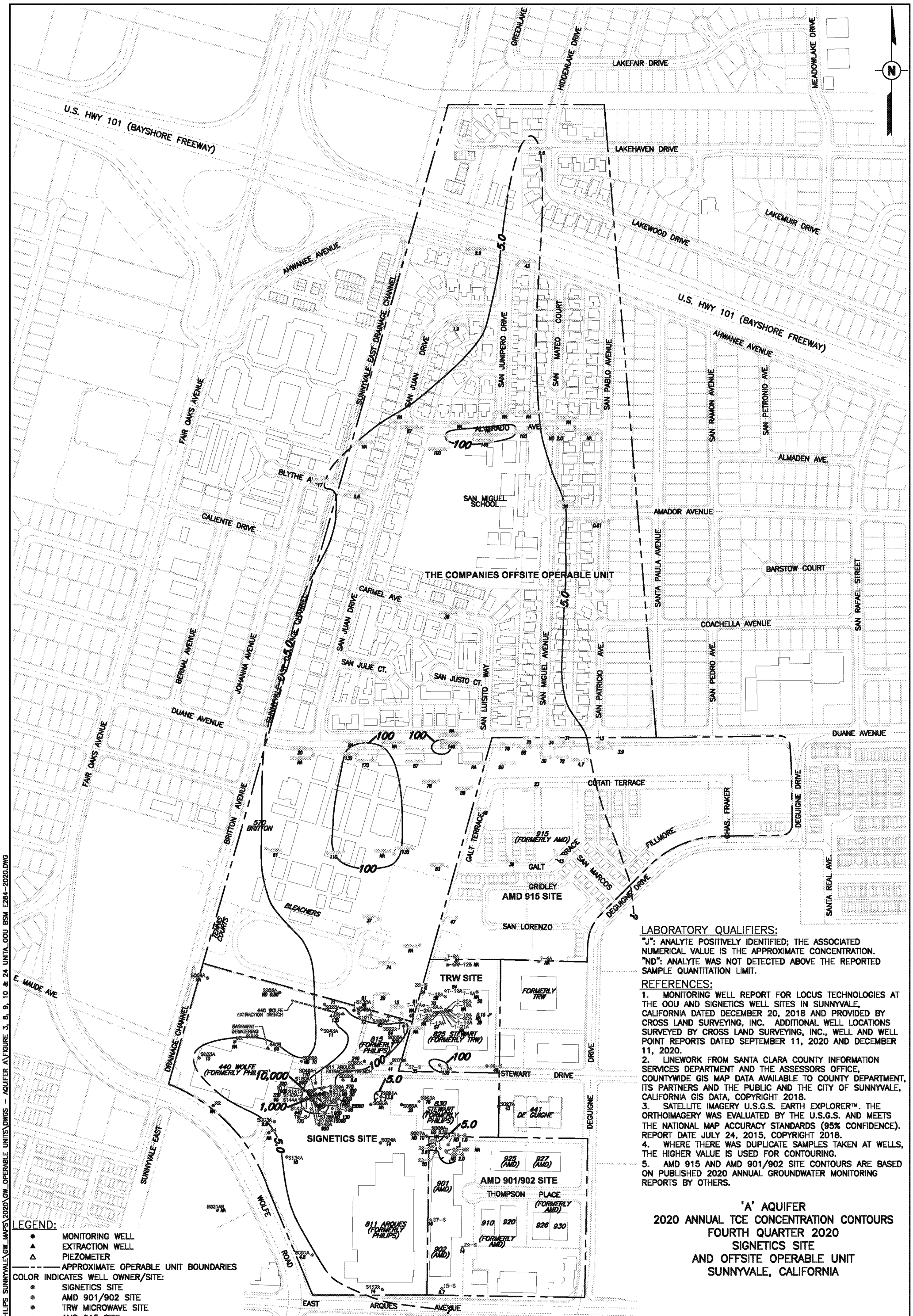
DRAWING NO. 27-006-E284

FIGURE 3

'A' AQUIFER
2020 ANNUAL GROUNDWATER ELEVATION CONTOURS
OCTOBER 2020
SIGNETICS SITE
AND OFFSITE OPERABLE UNIT
SUNNYVALE, CALIFORNIA

FILE NAME: Z:\LOCUS.TEC\PHILIPS SUNNYVALE\GW_MAPS\2020\GW_OPERABLE UNITS\DWGS - AQUIFER A\FIGURE 3, 8, 9, 10 & 24 UNITA_OOU BSM E284-2020.DWG

ED_013761_00000142-00051



LEGEND:

- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- APPROXIMATE OPERABLE UNIT BOUNDARIES

COLOR INDICATES WELL OWNER/SITE:

- SIGNETICS SITE
- AMD 901/902 SITE
- TRW MICROWAVE SITE
- AMD 915 SITE
- THE COMPANIES OFFSITE OPERABLE UNIT

- 25000 TCE CONCENTRATION (µg/L)
- ND 0.50 NOT DETECTED ABOVE THE NOTED REPORTING LIMIT
- NS DENOTES WELL NOT SAMPLED
- NA CONCENTRATION DATA NOT AVAILABLE
- 5.0 TCE ISOCONCENTRATION CONTOUR IN µg/L DASHED WHERE INFERRED
- * NOT USED FOR CONTOURING

LABORATORY QUALIFIERS:

"J": ANALYTE POSITIVELY IDENTIFIED; THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION.
"ND": ANALYTE WAS NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT.

REFERENCES:

1. MONITORING WELL REPORT FOR LOCUS TECHNOLOGIES AT THE OOU AND SIGNETICS WELL SITES IN SUNNYVALE, CALIFORNIA DATED DECEMBER 20, 2018 AND PROVIDED BY CROSS LAND SURVEYING, INC. ADDITIONAL WELL LOCATIONS SURVEYED BY CROSS LAND SURVEYING, INC., WELL AND WELL POINT REPORTS DATED SEPTEMBER 11, 2020 AND DECEMBER 11, 2020.
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3. SATELLITE IMAGERY U.S.G.S. EARTH EXPLORER™. THE ORTHOIMAGERY WAS EVALUATED BY THE U.S.G.S. AND MEETS THE NATIONAL MAP ACCURACY STANDARDS (95% CONFIDENCE). REPORT DATE JULY 24, 2015, COPYRIGHT 2018.
4. WHERE THERE WAS DUPLICATE SAMPLES TAKEN AT WELLS, THE HIGHER VALUE IS USED FOR CONTOURING.
5. AMD 915 AND AMD 901/902 SITE CONTOURS ARE BASED ON PUBLISHED 2020 ANNUAL GROUNDWATER MONITORING REPORTS BY OTHERS.

'A' AQUIFER
2020 ANNUAL TCE CONCENTRATION CONTOURS
FOURTH QUARTER 2020
SIGNETICS SITE
AND OFFSITE OPERABLE UNIT
SUNNYVALE, CALIFORNIA

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
6	02 FEB 21	ADDED WELLS FROM SURVEY S158A, S159 AND S160A	AJK	NJL	JWH
5	20 DEC 20	ADDED WELLS FROM SURVEY TW-1, TW-2 AND TW-3	AJK	NJL	JWH
4	11 JAN 18	ADDED WELLS FROM SURVEY 56-S, 57-S, 56-D, 57-D, 56-DD, 57-DD	NJL	NJL	JWH
3	17 JAN 17	ADDED WELLS FROM SURVEY & SEALED WELLS/PIEZOMETERS: P2010A, P2012B1M, P2012B2, P2022B2, P2012B3, S068A, S069A, S068B1, S069B1	AJK	NJL	JWH

Locus TECHNOLOGIES

0 400 800
SCALE IN FEET

DRAWING NO. 27-006-E284

FIGURE 8

FILE NAME: Z:\LOCUS_TEC\PHILIPS SUNNYVALE\GW_MAPS\2020\GW_OPERABLE UNITS\DWGS - AQUIFER A\FIGURE 3, 8, 9, 10 & 24 UNITA_OOU BSM E284-2020.DWG

ED_013761_00000142-00052

Appendix B:

811 East Arques Commercial Indoor Air Survey

Non-Residential Survey Form

Date: 2/15/2022 **Site:** Phips - Argues **EPA Building Number #:** _____

Surveyor Name: Alan Tuan

Surveyor Title: _____

PART 1: General Information

Business Name: Lowe's

Address: 811 E Argues
Sunnyvale CA

Tenant Information (if applicable)

Contact Name: Chad Dewayne / Gerald Sulicipan Interviewed: ☒ Yes ☐ No

Phone: 408-470-9190 / 408-332-9470 Email: Chad.M.Dewayne@store.lowes.com

Owner/Landlord Information **Consent Access** ☒ Yes ☐ No Date: 10/13/2021

Name: Michael Aiken Interviewed: ☒ Yes ☐ No

Phone: 336-467-1573 Email: michael.aiken@lowes.com

Building/Business Type (Check appropriate boxes)

☐ School/Day-Care ☒ Retail Store ☐ Office Space ☐ Warehouse ☐ Manufacturing

☒ Single level Office/Warehouse ☐ Multi-story ☐ Strip-mall ☐ Multi-tenant ☐ Warehouse

Other ☒ Hardware / Home improvement store

Building Occupancy

Night shift: 8pm - 5am stocking shelves, Friday/sat night unoccupied, salary workers: 11 hours/day

Typical Days/Hours of occupancy 2-3 hours in office area for meetings/breaks

Typical Days/Hours of ventilation system operation 3 modes (customer, employee, unoccupied) see Jason Peters email.

Name/Title of individual responsible for days/hours of operation Jason Peters / Facilities Asset Program Analyst.

Building Characteristics

Year/Decade Built: 2005 Number of Stories: 1

Approximate Building Area (square feet): Total 135,000 sqft First Floor _____

Is there an attached warehouse/shop space? ____ describe its use: _____

Foundation Type (Check appropriate boxes)

☒ Slab-on-Grade ☐ Slab-above-Grade (elevated/cap-slab on fill) ☐ Crawl Space ☐ Basement ☐ None

Describe _____

Date: 2/15/2022 Site: Phillips - Argues EPA Building Number #: _____

PART 2: Factors Impacting Indoor Air Quality and Sampling

Observations

What is the temperature relative to outside? slightly warmer.

What pathways to the subsurface were observed (e.g. utility conduits penetrating slab or interior wall/s, crawlspace openings or access points, floor drains)?
Floor drain in men/women restroom, 1 in janitor closet. Utility conduit into slab in electrical room

Were windows/doors/roll-up doors kept open? side doors to garden area always open.

Is there evidence of significant negative pressure? (e.g. using a facial tissue as a visual indicator or feeling for air movement with your hand, is air being drawn into the room/home: a) under the gap between the door and the floor when the door is closed, or b) through the doorway when the door is cracked open approximately 1/8th of an inch?) No

Do parts of the indoor environment appear stagnant? No

Building Construction

Building Construction Materials? ☒ Concrete ☐ Concrete Block ☐ Steel ☐ Wood ☐ Other _____

Does the building have an at-grade or below-grade garage? at-grade

Does the building have an attached mechanical room? electrical room

Is the building slab constructed with post-tension concrete [e.g. "post tension" indicated in a sign (stamped on the concrete floor near the edge of the main door or a plastic/paper sign on the wall) or cable tails evident in slab edges exposed on exterior walls, in stairwells, at balconies (circular, flush grout plugs 1.5" to 3" in diameter, 2' to 4' apart; or corroded cable tails)?

What are the ceiling heights? ~ 30'

Non-Residential Survey Form

Date: 2/15/2022 **Site:** Phillips-Agnes **EPA Building Number #:** _____

Pathway Analysis

Does the building have a basement or sub-surface structures that are/have: No

☐ Unfinished ☐ Exposed soil ☐ Damp or flooded ☐ Unsealed utility lines ☐ Other _____

Are there utilities that penetrate the slab that may be conduits for soil vapor? No, they are sealed.
Are these:
Connected to subsurface vaults? _____
Connected to utilities closer to potential VI sources? _____
In areas where pressure differential would cause air to flow through them? _____

Is there non-ventilated space in the building (maintenance /electrical / server rooms)? No
Is this space occupied? _____ At what frequency/duration? _____
Are there potential pathways in this space (e.g. utility conduits penetrating slab or interior wall/s, crawlspace openings or access points, floor drains)?

_____

Are there significant heat sources or other systems that may generate a significant negative pressure near the floor/slab? _____

Are there elevators in the building? No
If the elevators are hydraulic plunger how deep does the piston penetrate below the slab? _____

Are there significant utilities penetrating the floor/slab? No

What is the condition of the foundation/slab? good, some cracks, mostly sealed.

Was the building constructed with a subslab system or barrier? Yes vapor (moisture) barrier.

Are there floor drains? Yes. Restrooms + Janitor closet. No drain in single occupancy bathroom.

If the foundation design specifications and/or as-built drawings are available attach.

Other Information (that may be of importance in understanding the indoor air quality)

_____

See Jason Peters email regarding HVAC.

Check Hazardous Materials Business Plan. SDS Database most likely unhelpful. Can only search by name of product.

Potential Sampling Locations

General notes on potential sample locations and type. Tentative sampling date(s) and preferred times.

Possibly 2 vapor pins in classrooms and 2 vapor pins on main floor

_____

On a separate page, draw/attach the general floor plan of the building and denote potential locations of sample collection.

Date: _____ Site: _____ EPA Building Number #: _____

PART 4: Building Heating/Cooling/Ventilation Systems

Systems Present

What types of systems are used for heating, cooling and ventilation? Check all that apply.

☐ Air Handler(s) ☒ Package Units ☐ Window/Wall systems ☐ Radiant heating (electric or water/steam)

☐ Evaporative Coolers ☐ Heat pump ☐ Built-up ☐ None Comments _____

Do the systems present provide make-up/fresh air? (Y/N) YES

Have the systems been evaluated for ASHRAE Standard 62 compliance? YES

Fresh air should be supplied in all commercial/industrial/institutional settings. ASHRAE Standard 62, *Ventilation for Acceptable Indoor Air Quality*, has guidelines on how much air should be supplied. Meeting these requirements generally helps to mitigate VI impacts.

When was the system last tested and balanced? 2/14/2022 (attach report if available)

Is the ventilation system automated (building automation system)? YES

If yes is the data recorded or can it be recorded? _____

Note that the ventilation settings should be evaluated in the automation system and verified manually where possible.

System operations

For each of the ventilation systems describe how is outdoor air supplied?

- Economizers: For RTU-3
  - Are economizers opening and closing properly? _____
  - minimum and maximum settings cfm or % 1656 cfm
- Manual adjustable outdoor air intakes No, Auto
  - Settings _____
- Fixed outdoor air intakes? _____
- Potential outdoor air intake not installed? _____
- Outdoor air intake not easily installed (e.g., split system, radiant heating) _____

How frequently are the ventilation systems serviced? _____

Are filters in good condition (*i.e.* not restricting airflow)? _____

Days and hours of operation for each ventilation system See Jason Peters email

Do any of the ventilation systems operate during nights and weekends? Y reduced settings? Y

Are the temperature / ventilation settings locked or routinely adjusted by the occupants? locked

What are the temperature settings? (note if seasonally variable) Days _____ Nights _____ Weekends _____ SEE email

If there is an economizer, does the system control outdoor air supply using: (check all that apply)

Non-Residential Survey Form

Date: 2/15/2022 **Site:** Philips-Argos **EPA Building Number #:** _____

☐ Outdoor air temperature/enthalpy ☐ CO_2 concentration ☐ Other _____

Is there power exhaust? _____

Is the power exhaust setting dependent on ☐ economizer damper position ☐ Static pressure

Does the system use variable air volume distribution (VAV)? No

Can airflow be detected at indoor intakes and exhausts? _____

Other Ventilation Issues impacting vapor intrusion potential.

Does the ventilation system have any underground components? No

Is ventilation being supplied or returned under a false floor above the building slab? No

Are ducting components routed through a basement, crawlspace, or utility vault area? No

Is a boiler or heater present in a basement or crawlspace? N describe _____

Outdoor air intakes

Where are the outdoor air intakes located? Roof top

Are any outdoor air intakes physically obstructed? No

Are any intakes near sources of chemicals / sewer vents? No

Are there carbon filters present in the ventilation system? See e-mail

What make and model of filters are present and how often are they changed? _____

Non-Residential Survey Form

Date: 2/15/2022 Site: _____ EPA Building Number #: _____

Ventilation zones and settings

Zone/ Room	System Type	Supply Air Total cfm (range if VAV)	Supply Air % outdoor (range)	Ducted y/n	Return Air cfm	Ducted y/n

see attached,

Non-Residential Survey Form

Date: 2/15/2022 Site: _____ EPA Building Number #: _____

Additional Notes:

Alan Tuan

From: Peters, Jason <jason.peters@lowes.com>
Sent: Tuesday, January 25, 2022 2:40 PM
To: Alan Tuan; Aiken, Michael
Cc: Dewayne, Chad; Africa Espina
Subject: RE: [EXTERNAL] RE: STORE 2211 SUNNYVALE CA Locus Technologies Inspection

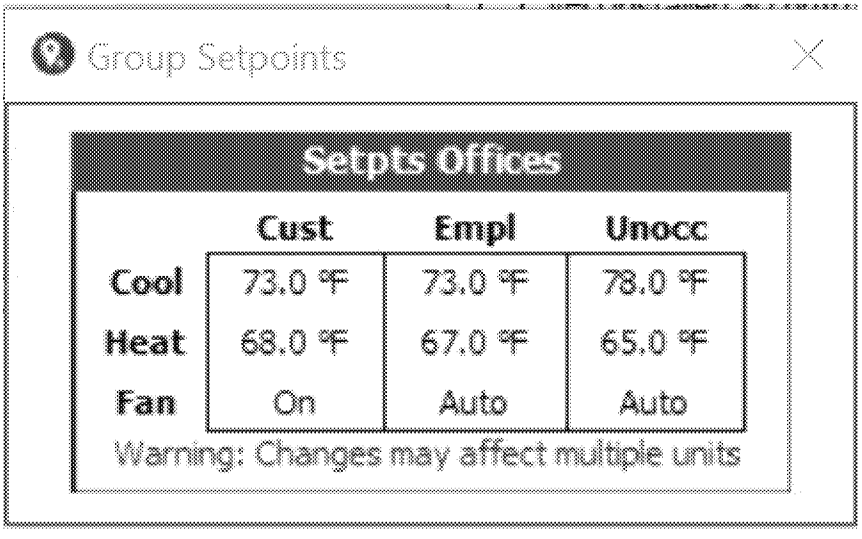
Alan,

I would not be able to meet onsite, unfortunately. Hopefully the explanations below are helpful. I can elaborate on any of these if needed.

There are three modes of operation for RTU's .

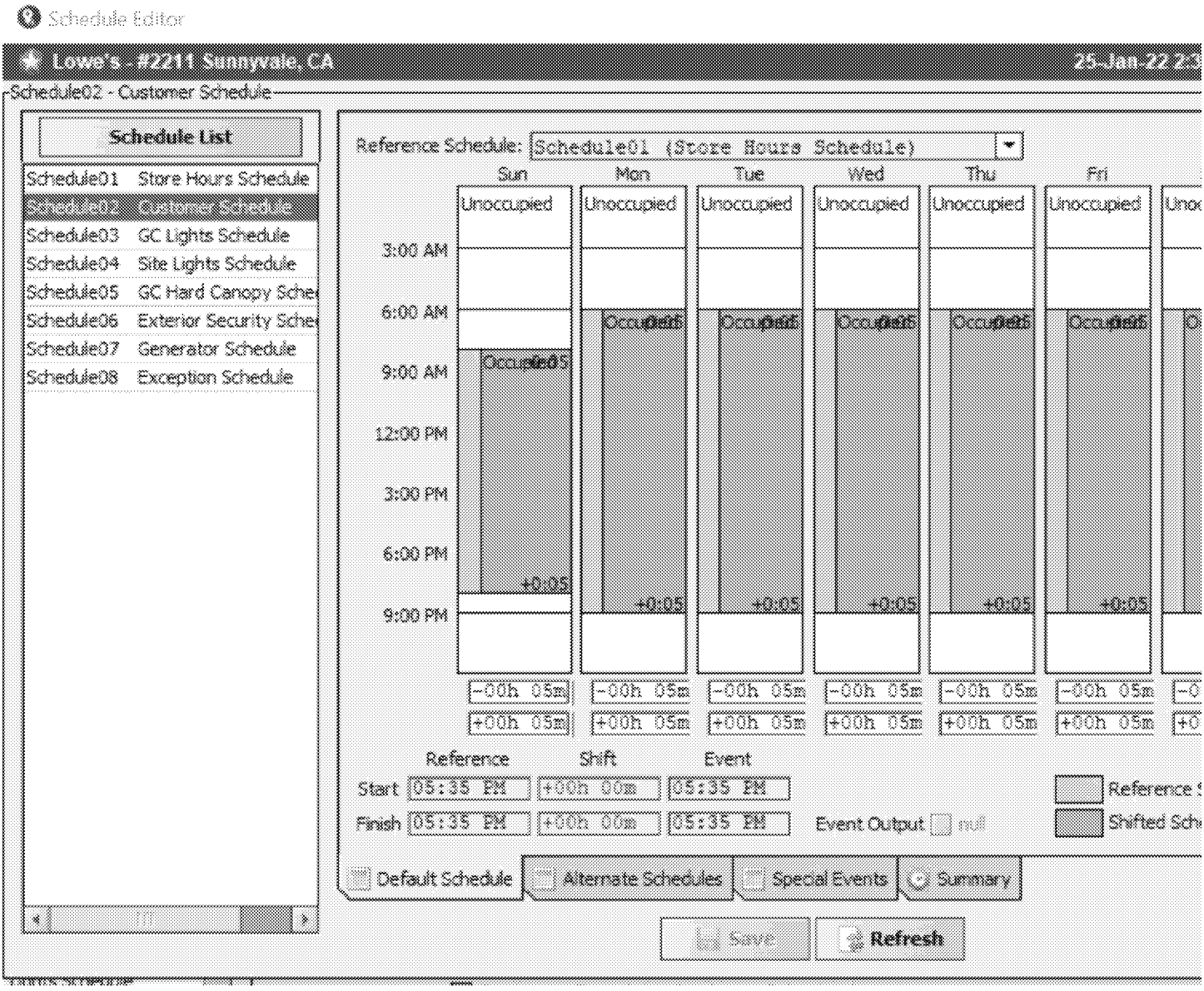
- Unoccupied
- Employee
- Customer

See below screenshot for setpoints and fan mode.



Unoccupied – Burglar alarm set, no one in building.
Employee – Burglar alarm set, employees only in building.
Customer – Burglar alarm not set, customer hours.

Schedule for HVAC – Customer is a shift, based off of store hours. We change the setpoints -5/+5 minutes.



Jason Peters
Facilities Asset Program Analyst | Lowe's Companies Inc.
C 704.960.9710

From: Alan Tuan <tuana@locustec.com>
Sent: Tuesday, January 25, 2022 1:23 PM
To: Peters, Jason <jason.peters@lowes.com>; Aiken, Michael <michael.aiken@lowes.com>
Cc: Dewayne, Chad <Chad.M.Dewayne@store.lowes.com>; Africa Espina <guzuna@locustec.com>
Subject: RE: [EXTERNAL] RE: STORE 2211 SUNNYVALE CA Locus Technologies Inspection

EXTERNAL SENDER

Hi Jason,

Appendix C:

811 East Arques Hazardous Materials Business Plan

LOWE'S #2211 (CERSID: 10416037)

Facility Information **Submitted May 21, 2021**

Submitted on 5/21/2021 11:14:40 AM by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)
Comments by Submitter: 2021 Annual Certification.

- Business Activities
- Business Owner/Operator Identification

Hazardous Materials Inventory **Submitted May 21, 2021**

Submitted on 5/21/2021 11:14:40 AM by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)

- Hazardous Material Inventory (11)
- Site Map (Official Use Only)
  - *Annotated Facility Map #1 (Official Use Only)* (Adobe PDF, 1041KB)
  - *Annotated Site Map #2 (Official Use Only)* (Adobe PDF, 509KB)

Emergency Response and Training Plans **Submitted May 21, 2021**

Submitted on 5/21/2021 11:14:40 AM by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)

- Emergency Response/Contingency Plan
  - *Emergency Response/Contingency Plan* (Adobe PDF, 212KB)
- Employee Training Plan
  - *Employee Training Plan* (Adobe PDF, 108KB)

Aboveground Petroleum Storage Act **Submitted May 21, 2021**

Submitted on 5/21/2021 11:14:40 AM by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)

- Aboveground Petroleum Storage Act Documentation
  - Stored At Facility *LOWE'S #2211* CERSID (10416037)
- APSA Facility Information

Site Identification

LOWE'S #2211
811 East Arques Avenue
Sunnyvale, CA 94085
County
Santa Clara

CERS ID
10416037
EPA ID Number
CAR000280123

Submittal Status

Submitted on 5/21/2021 by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)
Comments by submitter: 2021 Annual Certification.

Hazardous Materials

Does your facility have on site (for any purpose) at any one time, hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or is regulated under more restrictive inventory local reporting requirements (shown below if present); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	Yes

Underground Storage Tank(s) (UST)

Does your facility own or operate underground storage tanks?	No

Hazardous Waste

Is your facility a Hazardous Waste Generator?	Yes
Does your facility treat hazardous waste on-site?	No
Is your facility's treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	No
Does your facility consolidate hazardous waste generated at a remote site?	No
Does your facility need to report the closure/removal of a tank that was classified as hazardous waste and cleaned on-site?	No
Does your facility generate in any single calendar month 1,000 kilograms (kg) (2,200 pounds) or more of federal RCRA hazardous waste, or generate in any single calendar month greater than 1 kg (2.2 pounds) of RCRA acute hazardous waste; or generate more than 100 kg (220 pounds) of spill cleanup materials contaminated with RCRA acute hazardous waste.	No
Is your facility a Household Hazardous Waste (HHW) Collection site?	No

Excluded and/or Exempted Materials

Does your facility recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	No
Does your facility own or operate ASTs above these thresholds? Store greater than 1,320 gallons of petroleum products (new or used) in aboveground tanks or containers.	Yes
Does your facility have Regulated Substances stored onsite in quantities greater than the threshold quantities established by the California Accidental Release prevention Program (CalARP)?	No

Additional Information

No additional comments provided.

California Environmental Reporting System (CERS) — Business Owner Operator

Facility/Site

LOWE'S #2211
811 East Arques Avenue
Sunnyvale, CA 94085

CERS ID
10416037

Submittal Status

Submitted on 5/21/2021 by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)
Comments by submitter: 2021 Annual Certification.

Identification

Lowe's Home Centers, LLC

Operator Phone	Business Phone	Business Fax
(408) 470-1680	(888) 429-6281	

Beginning Date	Ending Date
5/21/2021	5/31/2022

Dun & Bradstreet	SIC Code	Primary NAICS
006997142	5211	

Facility/Site Mailing Address

2603 Main St., Suite 700
Irvine, CA 92614

Primary Emergency Contact

VARIES
Title
Manager on Duty

Business Phone	24-Hour Phone	Pager Number
(408) 470-1680	(888) 429-6281	

Owner

Lowe's Home Centers, LLC
(704) 758-6033
1000 Lowe's Blvd.
Mooresville, NC 28117

Secondary Emergency Contact

INFO TRAC
Title
Lowe's HAZMAT Support Line (24/7/365)

Business Phone	24-Hour Phone	Pager Number
(888) 429-6281	(888) 429-6281	

Billing Contact

Rob Gass
(704) 758-6033 Robert.A.Gass@lowes.com
1000 Lowe's Blvd., Mail Code LPH28
Mooresville , NC 28117

Environmental Contact

Laurie Litwin
(949) 244-6719 Laurie.M.Litwin@lowes.com
2603 Main St., Suite 700
Irvine, CA 92614

Name of Signer	Signer Title	Document Preparer
Laurie Litwin	Regional Environmental Compliance Manager	APTIM

Additional Information

Locally-collected Fields

Some or all of the following fields may be required by your local regulator(s).

Property Owner

Lowe's Home Centers, LLC
Phone
(704) 758-6033
Mailing Address
1000 Lowe's Blvd.
Mooresville, NC 28117

Assessor Parcel Number (APN)
205-27-012
Number of Employees

Facility ID

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Lowe's Home Centers, LLC**
Facility Name **LOWE'S #2211**
811 East Arques Avenue, Sunnyvale 94085

Chemical Location **Back of Store in Hazardous Waste Accumulation Area (HWAC)**

CERS ID **10416037**
Facility ID
Status **Submitted** on 5/21/2021 11:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-A, Flammable Liquid, Class I-B, Flammable Liquid, Class I-C	**Waste Aerosols** CAS No Map: 1	**Gallons** State: Liquid Type: Waste	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressure: Ambient Temperature: Ambient	450 Waste Code: 331	- Physical Flammable - Physical Gas Under Pressure - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Aspiration Hazard	Various Retail Aerosols	100 %	
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Waste Corrosive Liquids (Acid)** CAS No Map: 1	**Gallons** State: Liquid Type: Waste	**30** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**30**	30 Pressure: Ambient Temperature: Ambient	100 Waste Code: 791	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Various Acidic Products	100 %	
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Waste Corrosive Liquids (Basic)** CAS No Map: 1	**Gallons** State: Liquid Type: Waste	**60** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**30**	30 Pressure: Ambient Temperature: Ambient	300 Waste Code: 122	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Various Alkaline Products		

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Lowe's Home Centers, LLC**
Facility Name **LOWE'S #2211**
811 East Arques Avenue, Sunnyvale 94085

Chemical Location **Back of Store in Hazardous Waste Accumulation Area (HWAC)**

CERS ID **10416037**
Facility ID
Status **Submitted** on 5/21/2021 11:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**Waste Flammable Liquids** CAS No Map: 1	**Gallons** State: Liquid Type: Waste	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressure: Ambient Temperature: Ambient	800 Waste Code: 331	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Germ Cell Mutagenicity	Various Flammable Liquid Products	100 %		
DOT: 6.1 - Toxic Substances Toxic	**Waste Toxics** CAS No Map: 1	**Gallons** State: Liquid Type: Waste	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressure: Ambient Temperature: Ambient	600 Waste Code: 331	- Physical Hazard Not Otherwise Classified - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Various Toxic Products	100 %		

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Lowe's Home Centers, LLC**
Facility Name **LOWE'S #2211**
811 East Arques Avenue, Sunnyvale 94085

Chemical Location **Back of Store in Hazardous Waste Accumulation Area (HWAC)**

CERS ID **10416037**
Facility ID
Status **Submitted** on 5/21/2021 11:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Non-RCRA Hazardous Waste Liquid/Latex Paint/Class 9 Waste** CAS No Map: 1	**Gallons** State Liquid Type Waste	**110** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55** 	55 Pressure Ambient Temperature Ambient	2000 Waste Code 331	- Physical Hazard Not Otherwise Classified - Health Carcinogenicity - Health Acute Toxicity - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity				
DOT: 5.1 - Oxidizing Substances Oxidizing, Class 1, Oxidizing, Class 2, Oxidizing, Class 3, Oxidizing, Class 4	**Waste Oxidizing Liquids** CAS No Map: 1	**Gallons** State Liquid Type Waste	**55** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55** 	55 Pressure Ambient Temperature Ambient	10 Waste Code 131	- Physical Flammable - Physical Organic Peroxide - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	Hydrogen Peroxide	60 %	✓	7722-84-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Lowe's Home Centers, LLC**
Facility Name **LOWE'S #2211**
811 East Arques Avenue, Sunnyvale 94085

Chemical Location **Janitorial Closet**

CERS ID **10416037**
Facility ID
Status **Submitted** on 5/21/2021 11:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**Hand Sanitizer Gel**	**Gallons**	**148**	**1**	148		- Physical Flammable	Ethanol	73 %		64-17-5
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressure: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified	2-Propanol, 2-Methyl	0 %		75-65-0
		Type: Mixture	Days on Site: 365		Temperature: Ambient		- Health Serious Eye Damage Eye Irritation	Methanol	0 %		67-56-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Lowe's Home Centers, LLC**
Facility Name **LOWE'S #2211**
811 East Arques Avenue, Sunnyvale 94085

Chemical Location
Operational Equipment

CERS ID **10416037**
Facility ID
Status **Submitted** on 5/21/2021 11:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas	**Liquefied Petroleum Gas (lpg)** CAS No 74-98-6 Map: 1	**Gallons** State Liquid Type Mixture	**1065** Storage Container Cylinder Days on Site: 365	**7.9**	1065 Pressure > Ambient Temperature Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Health Acute Toxicity - Health Simple Asphyxiant	Propane Propylene	85 % 15 %		74-98-6 115-07-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Lowe's Home Centers, LLC**
Facility Name **LOWE'S #2211**
811 East Arques Avenue, Sunnyvale 94085

Chemical Location **See Site Map**

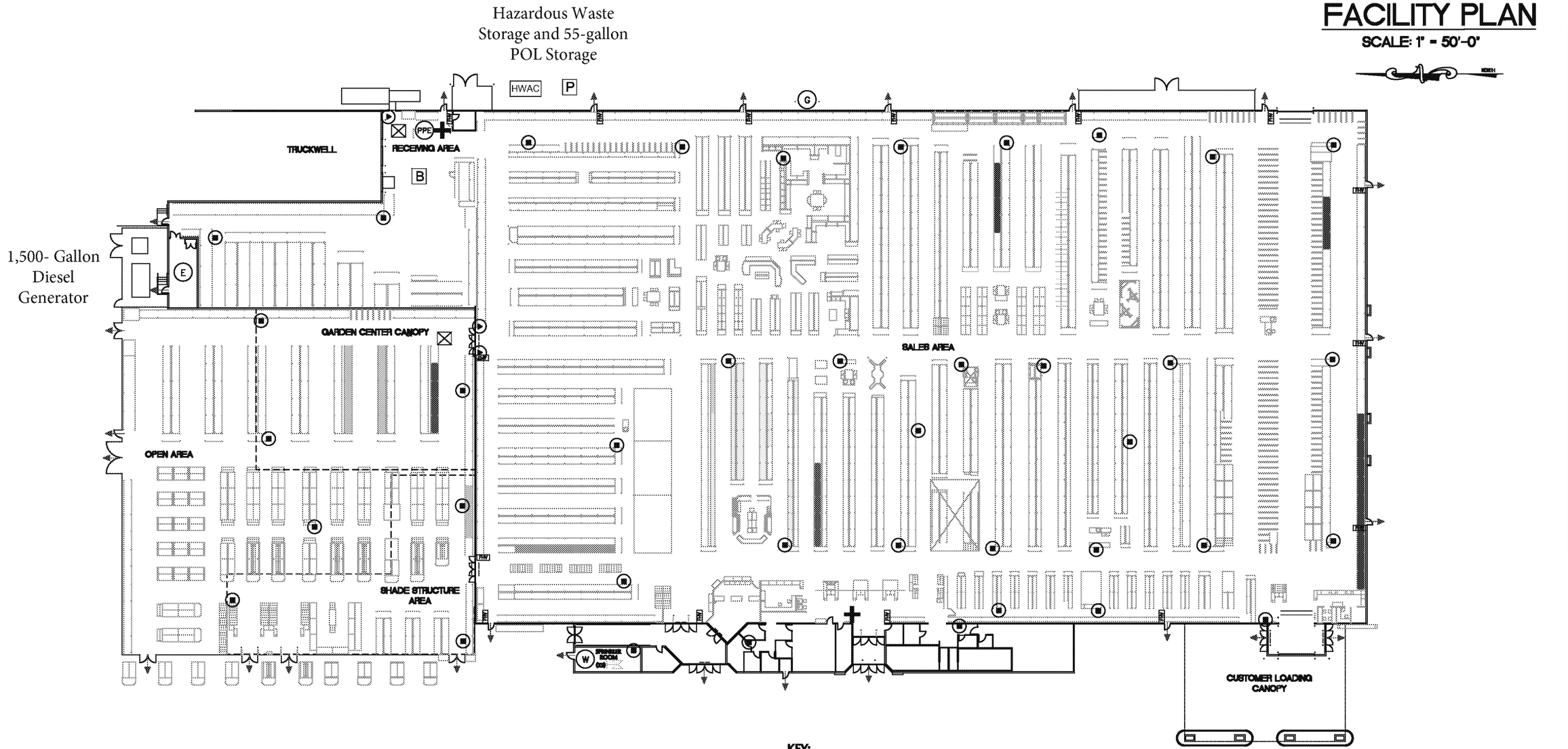
CERS ID **10416037**
Facility ID
Status **Submitted** on 5/21/2021 11:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**Diesel Fuel** CAS No 68476-34-6 Map: 1	**Gallons** State Liquid Type Mixture	**1500** Storage Container Aboveground Tank Days on Site: 365	**1500**	1500 Pressure Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard	Diesel Mixture (varies by supplier)	100 %		68476-34-6
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Lead Acid Batteries** CAS No Map: 1	**Gallons** State Liquid Type Mixture	**106** Storage Container Other Days on Site: 365	**28**	106 Pressure Ambient Temperature Ambient	Waste Code	- Physical Explosive - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid	40 %	✓	7664-93-9

BUSINESS NAME: LOWE'S HOME IMPROVEMENT WAREHOUSE #2211 SITE ADDRESS: 811 EAST ARQUES AVENUE, SUNNYVALE, CA 94085

FACILITY PLAN

SCALE: 1" = 50'-0"



NOTE: AN AUTOMATIC FIRE SPRINKLER SYSTEM IS INSTALLED THROUGHOUT THE BUILDING

FIRE EXTINGUISHER LEGEND

- 39 - 4A 60BC FIRE EXTINGUISHER
- 3 - WATER TYPE FIRE EXTINGUISHER (GARDEN CENTER CANOPY AND RECEIVING AREA)

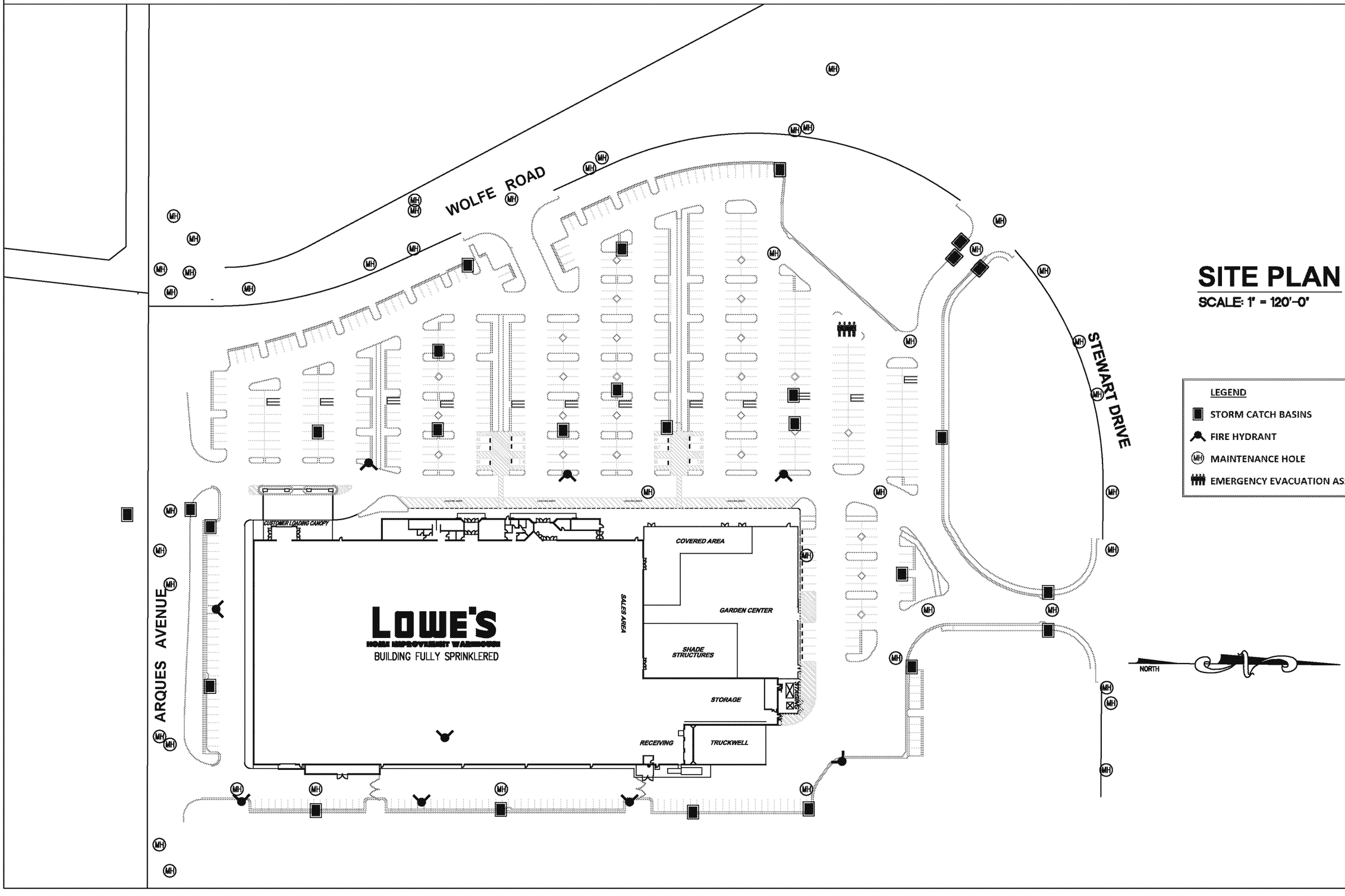
KEY:

- EMERGENCY DIESEL GENERATOR, (CLASS II COMBUSTIBLE LIQUID)
- AEROSOLS LEVEL 2 & 3
- PAINTS/SOLVENTS/FLAMMABLE-COMBUSTIBLE LIQUIDS
- POOL CHEMICALS
- FERTILIZER
- CLEANING CHEMICALS
- GARDEN CHEMICALS
- ROOF COATING & MASONRY BAGGED GOODS

- (G) GAS SHUTOFF
- (E) ELECTRICAL SHUTOFF
- (W) WATER SHUTOFF
- (PPE) PERSONAL PROTECTIVE EQUIPMENT
- FIRST AID
- SPRINKLER SYSTEM VALVES
- FHV FIRE HOSE VALVE

- spill containment & mitigation equipment
- Hazardous Waste Accumulation Area — HWAC
- batteries — B
- propane — P
- emergency assembly area

BUSINESS NAME: LOWE'S HOME IMPROVEMENT WAREHOUSE #2211 **SITE ADDRESS: 811 EAST ARQUES AVENUE, SUNNYVALE, CA 94085**



SITE PLAN

SCALE: 1" = 120'-0"

LEGEND

- STORM CATCH BASINS
- FIRE HYDRANT
- MH MAINTENANCE HOLE
- EMERGENCY EVACUATION ASSEMBLY AREA

CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS)

CONSOLIDATED EMERGENCY RESPONSE / CONTINGENCY PLAN

Prior to completing this Plan, please refer to the INSTRUCTIONS FOR COMPLETING A CONSOLIDATED CONTINGENCY PLAN

A. FACILITY IDENTIFICATION AND OPERATIONS OVERVIEW

FACILITY ID #	1.	CERS ID	A1.	DATE OF PLAN PREPARATION/REVISION	A2.
		10416037		04/17/2017	

BUSINESS NAME *(Same as Facility Name or DBA - Doing Business As)* 3.

Lowe's #2211

BUSINESS SITE ADDRESS 103.

811 East Arques Avenue

BUSINESS SITE CITY	104.		ZIP CODE	105.
Sunnyvale		CA	94085	

TYPE OF BUSINESS (e.g., Painting Contractor)	A3.	INCIDENTAL OPERATIONS (e.g., Fleet Maintenance)	A4.
Retailer		NA	

THIS PLAN COVERS CHEMICAL SPILLS, FIRES, AND EARTHQUAKES INVOLVING: (Check all that apply) A5.

☒ 1. HAZARDOUS MATERIALS; ☒ 2. HAZARDOUS WASTES

B. INTERNAL RESPONSE

INTERNAL FACILITY EMERGENCY RESPONSE WILL OCCUR VIA: (Check all that apply) B1.

☒ 1. CALLING PUBLIC EMERGENCY RESPONDERS (i.e., 9-1-1)
☒ 2. CALLING HAZARDOUS WASTE CONTRACTOR
☒ 3. ACTIVATING IN-HOUSE EMERGENCY RESPONSE TEAM

C. EMERGENCY COMMUNICATIONS, PHONE NUMBERS AND NOTIFICATIONS

Whenever there is an imminent or actual emergency situation such as an explosion, fire, or release, the Emergency Coordinator (or his/her designee when the Emergency Coordinator is on call) shall:

1. Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
2. Notify appropriate local authorities (i.e., call 9-1-1).
3. Notify the California Office of Emergency Services at (800) 852-7550.

Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall notify the California Department of Toxic Substances Control (DTSC), the local Unified Program Agency (UPA), and the local fire department's hazardous materials program that the facility is in compliance with requirements to:

1. Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from an explosion, fire, or release at the facility; and
2. Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.

INTERNAL FACILITY EMERGENCY COMMUNICATIONS OR ALARM NOTIFICATION WILL OCCUR VIA: (Check all that apply) C1.

☒ 1. VERBAL WARNINGS;	☒ 2. PUBLIC ADDRESS OR INTERCOM SYSTEM;	☐ 3. TELEPHONE;
☐ 4. PAGERS;	☒ 5. ALARM SYSTEM;	☒ 6. PORTABLE RADIO

NOTIFICATIONS TO NEIGHBORING FACILITIES THAT MAY BE AFFECTED BY AN OFF-SITE RELEASE WILL OCCUR BY: (Check all that apply) C2.

☒ 1. VERBAL WARNINGS;	☐ 2. PUBLIC ADDRESS OR INTERCOM SYSTEM;	☒ 3. TELEPHONE;
☐ 4. PAGERS;	☐ 5. ALARM SYSTEM;	☐ 6. PORTABLE RADIO

EMERGENCY RESPONSE PHONE NUMBERS:

AMBULANCE, FIRE, POLICE AND CHP		9-1-1
CALIFORNIA OFFICE OF EMERGENCY SERVICES (OES)		(800) 852-7550
NATIONAL RESPONSE CENTER (NRC)		(800) 424-8802
POISON CONTROL CENTER		(800) 222-1222
LOCAL UNIFIED PROGRAM AGENCY (UPA/CUPA)		(408) 730-7238 C3.
OTHER (Specify):	C4.	( ) C5.

NEAREST MEDICAL FACILITY / HOSPITAL NAME: Kaiser Permanente Santa Clara Medical Center & Medical Offices C6. (408) 851-5300 C7.

AGENCY NOTIFICATION PHONE NUMBERS:

CALIFORNIA DEPT. OF TOXIC SUBSTANCES CONTROL (DTSC)		(916) 255-3545
REGIONAL WATER QUALITY CONTROL BOARD		(510) 622-2300 C8.
U.S. ENVIRONMENTAL PROTECTION AGENCY (US EPA)		(800) 300-2193
CALIFORNIA DEPT OF FISH AND GAME (DFG)		(916) 358-2900
U.S. COAST GUARD		(202) 267-2180
CAL/OSHA		(916) 263-2800
STATE FIRE MARSHAL		(916) 445-8200
OTHER (Specify):	C9.	( ) C10.
OTHER (Specify):	C11.	( ) C12.

D. EMERGENCY CONTAINMENT AND CLEANUP PROCEDURES

SPILL PREVENTION, CONTAINMENT, AND CLEANUP PROCEDURES: (Check all boxes that apply to indicate your procedures for containing spills, releases, fires or explosions; and. preventing and mitigating associated harm to persons, property, and the environment.)

D1.

- ☒ 1. MONITOR FOR LEAKS, RUPTURES, PRESSURE BUILD-UP, ETC.;
- ☐ 2. PROVIDE STRUCTURAL PHYSICAL BARRIERS (e.g., Portable spill containment walls);
- ☒ 3. PROVIDE ABSORBENT PHYSICAL BARRIERS (e.g., Pads, pigs, pillows);
- ☐ 4. COVER OR BLOCK FLOOR AND/ OR STORM DRAINS;
- ☐ 5. BUILT-IN BERM IN WORK / STORAGE AREA;
- ☒ 6. AUTOMATIC FIRE SUPPRESSION SYSTEM;
- ☒ 7. ELIMINATE SOURCES OF IGNITION FOR FLAMMABLE HAZARDS (e.g. Flammable liquids, Propane);
- ☒ 8. STOP PROCESSES AND/OR OPERATIONS;
- ☐ 9. AUTOMATIC / ELECTRONIC EQUIPMENT SHUT-OFF SYSTEM;
- ☒ 10. SHUT-OFF WATER, GAS, ELECTRICAL UTILITIES AS APPROPRIATE;
- ☒ 11. CALL 9-1-1 FOR PUBLIC EMERGENCY RESPONDER ASSISTANCE / MEDICAL AID;
- ☒ 12. NOTIFY AND EVACUATE PERSONS IN ALL THREATENED AREAS;
- ☒ 13. ACCOUNT FOR EVACUATED PERSONS IMMEDIATELY AFTER EVACUATION CALL;
- ☒ 14. PROVIDE PROTECTIVE EQUIPMENT FOR ON-SITE RESPONSE TEAM;
- ☒ 15. REMOVE OR ISOLATE CONTAINERS / AREA AS APPROPRIATE;
- ☒ 16. HIRE LICENSED HAZARDOUS WASTE CONTRACTOR;
- ☒ 17. USE ABSORBENT MATERIAL FOR SPILLS WITH SUBSEQUENT PROPER LABELING, STORAGE, AND HAZARDOUS WASTE DISPOSAL AS APPROPRIATE;
- ☐ 18. SUCTION USING SHOP VACUUM WITH SUBSEQUENT PROPER LABELING, STORAGE, AND HAZARDOUS WASTE DISPOSAL AS APPROPRIATE;
- ☐ 19. WASH / DECONTAMINATE EQUIPMENT W/ CONTAINMENT and DISPOSAL OF EFFLUENT / RINSATE AS HAZARDOUS WASTE;
- ☒ 20. PROVIDE SAFE TEMPORARY STORAGE OF EMERGENCY-GENERATED WASTES;
- ☒ 21. OTHER (Specify): ADDITIONAL INFORMATION RELATED TO SPILL MITIGATION PROCEDURES IS ATTACHED. D2.

E. FACILITY EVACUATION

THE FOLLOWING ALARM SIGNAL(S) WILL BE USED TO BEGIN EVACUATION OF THE FACILITY (CHECK ALL THAT APPLY): E1.

- ☐ 1. BELLS;
- ☒ 2. HORNS/SIRENS;
- ☒ 3. VERBAL (i.e., SHOUTING);
- ☒ 4. OTHER (Specify): PUBLIC EVACUATION WILL BE INITIATED VIA THE PUBLIC ADDRESS SYSTEM, SHOUTING, AND FIRE ALARM WHEN APPROPRIATE. E2.

THE FOLLOWING LOCATION(S) IS/ARE EVACUEE EMERGENCY ASSEMBLY AREA(S) (i.e., Front parking lot, specific street corner, etc.) E3.

Lowe's personnel will assist customers in locating the closest emergency exit. Once their department is clear of customers, the employees will proceed to the pre-determined evacuation and staging area to obtain further direction.

Note: The Emergency Coordinator must account for all on site employees and/or site visitors after evacuation.

☒ EVACUATION ROUTE MAP(S) POSTED AS REQUIRED E4.

Note: The map(s) must show primary and alternate evacuation routes, emergency exits, and primary and alternate staging areas, and must be prominently posted throughout the facility in locations where it will be visible to employees and visitors.

F. ARRANGEMENTS FOR EMERGENCY SERVICES

Explanation of Requirement: Advance arrangements with local fire and police departments, hospitals, and/or emergency services contractors should be made as appropriate for your facility. You may determine that such arrangements are not necessary.

ADVANCE ARRANGEMENTS FOR LOCAL EMERGENCY SERVICES (Check one of the following) F1.

- ☐ 1. HAVE BEEN DETERMINED NOT NECESSARY; *or*
- ☒ 2. THE FOLLOWING ARRANGEMENTS HAVE BEEN MADE (Specify): F2.

SPECIALTY RESPONSE ARRANGEMENTS CAN BE MADE THROUGH LOWE'S HAZMAT SUPPORT LINE, AT 888-429-6281.

G. EMERGENCY EQUIPMENT

Check all boxes that apply to list emergency response equipment available at the facility and identify the location(s) where the equipment is kept and the equipment's capability, if applicable. [e.g., ☒ CHEMICAL PROTECTIVE GLOVES | Spill response kit | One time use, Oil & solvent resistant only.]

TYPE	EQUIPMENT AVAILABLE G1.	LOCATION	CAPABILITY *(If applicable)*
Safety and First Aid	1. ☐ CHEMICAL PROTECTIVE SUITS, APRONS, OR VESTS	NA G2.	NA G3.
	2. ☒ CHEMICAL PROTECTIVE GLOVES	Various G4.	Spill Kits G5.
	3. ☐ CHEMICAL PROTECTIVE BOOTS	NA G6.	NA G7.
	4. ☐ SAFETY GLASSES / GOGGLES / SHIELDS	NA G8.	NA G9.
	5. ☐ HARD HATS	NA G10.	NA G11.
	6. ☐ CARTRIDGE RESPIRATORS	NA G12.	NA G13.
	7. ☐ SELF-CONTAINED BREATHING APPARATUS (SCBA)	NA G14.	NA G15.
	8. ☒ FIRST AID KITS / STATIONS	Various G16.	Various locations throughout facility G17.
	9. ☐ PLUMBED EYEWASH FOUNTAIN / SHOWER	NA G18.	NA G19.
	10. ☒ PORTABLE EYEWASH KITS	Various G20.	Available G21.
	11. ☐ OTHER	NA G22.	NA G23.
	12. ☐ OTHER	NA G24.	NA G25.
Fire Fighting	13. ☒ PORTABLE FIRE EXTINGUISHERS	Various G26.	Various locations throughout facility G27.
	14. ☒ FIXED FIRE SYSTEMS / SPRINKLERS / FIRE HOSES	Various G28.	Fully monitored sprinkler system G29.
	15. ☒ FIRE ALARM BOXES OR STATIONS	Front of Store G30.	Manual Fire Alarm Pull Station G31.
	16. ☐ OTHER	NA G32.	NA G33.
Spill Control and Clean-Up	17. ☒ ALL-IN-ONE SPILL KIT	Various G34.	Various locations throughout facility G35.
	18. ☒ ABSORBENT MATERIAL	Various G36.	Various locations throughout facility G37.
	19. ☒ CONTAINER FOR USED ABSORBENT	Various G38.	Back of Store, Waste Storage Area G39.
	20. ☐ BERMING / DIKING EQUIPMENT	NA G40.	NA G41.
	21. ☒ BROOM	Various G42.	Various locations throughout facility G43.
	22. ☐ SHOVEL	NA G44.	NA G45.
	23. ☐ SHOP VAC	NA G46.	NA G47.
	24. ☐ EXHAUST HOOD	NA G48.	NA G49.
	25. ☐ EMERGENCY SUMP / HOLDING TANK	NA G50.	NA G51.
	26. ☐ CHEMICAL NEUTRALIZERS	NA G52.	NA G53.
	27. ☐ GAS CYLINDER LEAK REPAIR KIT	NA G54.	NA G55.
	28. ☐ SPILL OVERPACK DRUMS	NA G56.	NA G57.
	29. ☐ OTHER	NA G58.	NA G59.
Communi-cations and Alarm Systems	30. ☒ TELEPHONES (Includes cellular)	Various G60.	Various locations throughout facility G61.
	31. ☒ INTERCOM / PA SYSTEM	Various G62.	Various locations throughout facility G63.
	32. ☒ PORTABLE RADIOS	Various G64.	Various locations throughout facility G65.
	33. ☒ AUTOMATIC ALARM CHEMICAL MONITORING EQUIPMENT	Various G66.	Various locations throughout facility G67.
Other	34. ☒ OTHER	Interstitial Monitoring (If Facility has a AST) G68.	Tank leak detection Systems Audible and electronic Alarms G69.

H. EARTHQUAKE VULNERABILITY

Identify areas of the facility that are vulnerable to hazardous materials releases / spills due to earthquake-related motion. These areas require immediate isolation and inspection.

VULNERABLE AREAS: (Check all that apply) H1.	LOCATIONS (e.g., shop, outdoor shed, forensic lab)
☒ 1. HAZARDOUS MATERIALS / WASTE STORAGE AREA	Hazardous Waste Accumulation & Generator/Tank Area H2.
☐ 2. PROCESS LINES / PIPING	H3.
☐ 3. LABORATORY	H4.
☐ 4. WASTE TREATMENT AREA	H5.

Identify mechanical systems vulnerable to releases / spills due to earthquake-related motion. These systems require immediate isolation and inspection.

VULNERABLE SYSTEMS: (Check all that apply) H6.	LOCATIONS
☒ 1. SHELVES, CABINETS AND RACKS	Throughout store H7.
☒ 2. TANKS (EMERGENCY SHUTOFF)	Generator/Tank H8.
☒ 3. PORTABLE GAS CYLINDERS	See Map for location of propane cylinders H9.
☒ 4. EMERGENCY SHUTOFF AND/OR UTILITY VALVES	See Map H10.
☒ 5. SPRINKLER SYSTEMS	Throughout the facility H11.
☐ 6. STATIONARY PRESSURIZED CONTAINERS (e.g., Propane dispensing tank)	H12.

I. EMPLOYEE TRAINING

Explanation of Requirement: Employee training is required for all employees handling hazardous materials and hazardous wastes in day-to-day or clean-up operations including volunteers and/or contractors. Training must be:

- Provided within 6 months for new hires;
- Amended as necessary prior to change in process or work assignment;
- Given upon modification to the Emergency Response / Contingency Plan, and updated/refreshed annually for all employees.

Required content includes all of the following:

- Material Safety Data Sheets;
- Hazard communication related to health and safety;
- Methods for safe handling of hazardous substances;
- Fire hazards of materials / processes;
- Conditions likely to worsen emergencies;
- Coordination of emergency response;
- Notification procedures;
- Applicable laws and regulations;
- Communication and alarm systems;
- Personal protective equipment;
- Use of emergency response equipment (e.g. Fire extinguishers, respirators, etc.);
- Decontamination procedures;
- Evacuation procedures;
- Control and containment procedures;
- UST monitoring system equipment and procedures (if applicable).

INDICATE HOW EMPLOYEE TRAINING PROGRAM IS ADMINISTERED (Check all that apply) I1.

☐ 1. FORMAL CLASSROOM; ☐ 2. VIDEOS; ☐ 3. SAFETY / TAILGATE MEETINGS;

☐ 4. STUDY GUIDES / MANUALS (Specify): _____ I2.

☒ 5. OTHER (Specify): Training Materials through the Lowe's Learning Center (LLC). I3.

☐ 6. NOT APPLICABLE BECAUSE FACILITY HAS NO EMPLOYEES

Large Quantity Generator (LQG) Training Records: Large quantity hazardous waste generators (i.e., who generate more than 270 gallons/1,000 kilograms of hazardous waste per month) must retain written documentation of employee hazardous waste management training sessions which includes:

- A written outline/agenda of the type and amount of both introductory and continuing training that will be given to persons filling each job position having responsibility for the management of hazardous waste (e.g., labeling, manifesting, compliance with accumulation time limits, etc.).
- The name, job title, and date of training for each hazardous waste management training session given to an employee filling such a job position; and
- A written job description for each of the above job positions that describes job duties and the skills, education, or other qualifications required of personnel assigned to the position.
- Current employee training records must be retained until closure of the facility.
- Former employee training records must be retained at least three years after termination of employment.

J. LIST OF ATTACHMENTS

(Check one of the following) J1.

☐ 1. NO ATTACHMENTS ARE REQUIRED; *or*

☒ 2. THE FOLLOWING DOCUMENTS ARE ATTACHED: J2.

1. Spill Cleanup Procedures
2. Additional training plan information
3. Sample HW Inspection Log

K. SIGNATURE / CERTIFICATION

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete, and that a copy is available on site.

SIGNATURE OF OWNER/OPERATOR	DATE SIGNED K1.
Laurie Litwin	04/17/2017
NAME OF SIGNER (print) K2.	TITLE OF SIGNER K3.
Laurie Litwin	Regional Environmental Compliance Manager

Supplemental Emergency Response/Contingency Plan Information

Employee Training Plan

(Hazardous Materials Business Plan Module)

Authority Cited: HSC, Section 25504(c); Title 22, Div. 4.5, Ch. 12, Art. 3 CCR

All facilities that handle hazardous materials must have a written employee training plan. This plan is a required module of the Hazardous Materials Business Plan (HMBP). A blank plan has been provided below for you to complete and submit if you do not already have such a plan. If you already have a brief written description of your training program that addresses all subjects covered below, you are not required to complete the blank plan, below, but you must include a copy of your existing document as part of your HMBP.

Check all boxes that apply. *[Note: Items marked with an asterisk (*) are required.]*:

1. **Personnel** are trained in the following procedures:

☒	Internal alarm/notification *
☒	Evacuation/re-entry procedures & assembly point locations*
☐	Emergency incident reporting
☐	External emergency response organization notification
☒	Location(s) and contents of Emergency Response/Contingency Plan
☒	Facility evacuation drills, that are conducted at least *(specify)* Annually

Lowe's Training Procedures:

Training shall be provided for all new employees, and annually, including refresher courses, for all employees.

Facility personnel are trained as follows:

- Familiarity with all plans and procedures specified in the Contingency Plan.
- Methods for safe handling of hazardous materials.
- Safety procedures in the event of a release or threatened release of a hazardous material.
- Use of Emergency Response Equipment and supplies under the control of the business.
- Procedures for coordination with local Emergency Responder organizations.
- Employees are trained on how to read a Material Safety Data Sheet (MSDS) and how to obtain a copy of an MSDS for review.

Training for workers handling hazardous waste:

- Facility personnel will successfully complete training within six months after the date of their employment or assignment to the store or to a new position at the store.
- Employees will not handle hazardous wastes without supervision until trained.

Training procedures for new employees is through the Lowe's Learning Center (LLC) at the facility, and include on the job training. Training procedures are refreshed annually for hazardous materials storage, labeling, record keeping, and handling requirements; the Hazardous Materials Business Plan (HMBP) is reviewed by applicable new employees, to all applicable employees on an annual basis, and is available for all associates review in the Manager's office and on Lowe's employee intranet site. Material Safety Data Sheets are available on Lowe's intranet site for review or printed out for onsite reference. The Human Resources Manager tracks training records and manifests, respectfully. Training records and manifests are available for review upon request with the store manager. All employees are required to participate in the Emergency Preparedness Program to assure evacuation routes and meeting place are known in the event of an emergency. The Automatic Fire Sprinkler System is checked by a licensed vendor annually.

Personnel/Capabilities:

A. Are there any specially trained hazardous materials emergency response personnel at your business?
Yes ____ ____ No _X___ Number Trained _____

B. Do you have decontamination capabilities for victims of exposure to hazardous materials at your business? Yes ____ ____ No _X___ Type of Decon _____

C. Do you have personnel that will provide site security at your business during and after a hazardous materials incident? Yes____ No_X_____ Titles of Personnel _____

2. **Chemical Handlers** are additionally trained in the following:

☒ Safe methods for handling and storage of hazardous materials *
☒ Location(s) and proper use of fire and spill control equipment
☒ Spill procedures/emergency procedures
☒ Proper use of personal protective equipment *
☒ Specific hazard(s) of each chemical to which they may be exposed, including routes of exposure *(i.e. inhalation, ingestion, absorption)* *
☒ **Hazardous Waste Handlers/Managers** are trained in all aspects of hazardous waste management specific to their job duties *(e.g. container accumulation time requirements, labeling requirements, storage area inspection requirements, manifesting requirements, etc.)* *

Prevention:
Lowe's maintains hazardous chemicals in pre-packaged consumer products merchandised for retail sale. Products merchandised are stocked in such a manner as to preclude accidental damage, and to prevent spills or accidental mixtures. For example: 1) hazardous products maintained in small containers are kept in original boxes cut with lips or guards to prevent products from falling from shelves; 2) products maintained in overstock are kept in original unopened boxes, and wherever possible, boxes are secured with shrink wrapping material; and 3) incompatible products are separated by distance or partition to preclude mixture.

(If applicable) - Lowe's maintains an emergency generator for backup emergency power. The emergency generator contains diesel fuel, which is combustible. A low level detector to monitor the liquid level in the diesel fuel tank helps notify if any leaks in the tank were to occur and a trouble signal would be given to notify the proper authority.

Forklifts are also regularly used within the Lowe's stores. Forklift batteries contain hazardous materials and should be treated with care. When the batteries need charging, the forklifts are driven to a designated location where they are connected to a charging circuit until fully charged. The batteries are regularly checked for damage and/or leaks and would be treated appropriately.

Hazardous wastes are labeled and secured in the hazardous waste accumulation area. Universal wastes are labeled and secured in the Receiving Area in the back of the store.

Mitigation:
In the case of a spill in the hazmat waste cage area, the spill would be contained with absorbent materials if it is not too large, and the manager notified for further guidance. For larger spills, InfoTrac will be contacted at 888-429-6281 to provide proper direction for contacting clean-up contractors, notifying the corporate offices and proper authorities.

Once a Lowe's employee discovers or is informed of a release, they should take the following steps:
1) Immediately evacuate the affected area of all customers and non-essential personnel
2) Notify a manager or assistant
3) Obtain a spill clean-up kit
4) Contact InfoTrac/HAZMAT Support Line for specific clean-up instructions.

If the spill is greater than 5 gallons or exceeds CERCLA reportable quantity, the following procedures apply:
1) Evacuate the area
2) Notify appropriate local authorities (e.g., Fire Department/911)
3) Notify the Hazmat Support Line (InfoTrac) at 888-429-6281 to report the spill
   - The Lowe's Corporate Hazmat Compliance Team, in conjunction with InfoTrac, will review the incident and determine the necessary response action.
   - If necessary, the Lowe's Corporate Hazmat Compliance Team will notify the appropriate regulatory authorities (e.g., Cal EMA and the CUPA) to ensure the facility meets all necessary pre- and post- incident reporting requirements.
4) Immediate containment of spill if possible, and
5) Notification of Corporate personnel.

Abatement:
If the spill is small and easily contained, Lowe's trained personnel will obtain a spill clean-up kit (containing PPE,

absorbent, bucket, broom, dustpan, labeling materials, mild detergent) and contact InfoTrac for specific clean-up instructions. For large spills, after evacuation of the area, the fire department, InfoTrac and Corporate personnel are contacted and notified. In the unlikely event that a spill would require a prolonged clean-up procedure, Lowe's would contact an emergency response contractor. These contractors will utilize properly trained personnel to clean-up and remove hazardous waste at the facility. In the event of an emergency, the fire department will be contacted to respond to and mitigate the emergency.

Record Keeping
(Hazardous Materials Business Plan Module)

All facilities that handle hazardous materials must maintain records associated with their management. A summary of your recordkeeping procedures is a required module of the Hazardous Materials Business Plan (HMBP). A blank summary has been provided below for you to complete and submit if you do not already have such a document. **If you already have a brief written description of your hazardous materials recordkeeping systems that addresses all subjects covered below, you are not required to complete this page, but you must include a copy of your existing document as part of your HMBP.**

Check all boxes that apply. The following records are maintained at the facility. *[Note: Items marked with an asterisk (*) are required.]*:

☒	Current employees' training records *(to be retained until closure of the facility)* *
☒	Former employees' training records *(to be retained at least three years after termination of employment)* *
☒	Training Program(s) *(i.e. written description of introductory and continuing training)* *
☒	Current copy of this Emergency Response/Contingency Plan *
☐	Record of recordable/reportable hazardous material/waste releases *
☒	Record of hazardous material/waste storage area inspections *
☐	Record of hazardous waste tank daily inspections *
☐	Description and documentation of facility emergency response drills

Note: The above list of records does not necessarily identify every type of record required to be maintained by the facility.

A copy of the Inspection Check Sheet(s) or Log(s) used in conjunction with required routine self-inspections of your facility must be submitted with your HMBP. *(Exception: Available from your local agency is a Hazardous Materials/Waste Storage Area Inspection Form that you may use if you do not already have your own form. If you use the example provided, you do not need to attach a copy.)*

Check the appropriate box:

☐	We will use the Unidocs "Hazardous Materials/Waste Storage Area Inspection Form" to document inspections.
☒	We will use our own documents to record inspections. ***(A blank copy of each document used must be attached to this HMBP.)***

	* Is the Hazmat Cage kept locked with a Best Lock Core #6X?	Yes/No
	* Is the Hazmat Cage clean and orderly with adequate space to access the drums and view the drum labels?	Yes/No
	* Is the Hazmat Storage Area Sign (Archway item on Spend Management #30734B) and "No Smoking Sign" posted?	Yes/No
	* Is there a charged and accessible ABC Fire extinguisher within 75 feet of the cage, but not mounted on the cage?	Yes/No
	* Are all of the waste storage containers properly labeled and secured (lid in place and secure)?	Yes/No
	* Is all waste product properly segregated in bags, labeled and stored in the appropriate drums in the hazmat cage? Verify the Inventory Logs are current, accurate and complete for each drum.	Yes/No
Task Completion Surveys - Conduct Hazmat Program Inspection	* Are all waste storage drums in good condition (i.e. free of rust, holes, leaks, or other visible damage)? Report any concerns to the Lowe's Hazmat Support Line at 1-888-429-6281.	Yes/No
	* Is the area around the Trash Compactor on the exterior of the building free from signs of leaking hydraulic oil? "If No" and oil is present on the ground, contact the Lowe's Hazmat Support Line at 1-888-429-6281. Conduct a visual inspection only.	Yes/No
	* Is the receiving/RTM area free of any product waiting to be classified for hazmat disposal? Note: All classifications should occur within two hours of waste designation.	Yes/No
	* Are the waste 4', 8' and CFL fluorescent bulb disposal boxes properly labeled as Universal Waste Bulbs with the accumulation start date, lids closed, and full boxes sealed?	Yes/No
	* Is the compactor door closed and locked and the Hazmat Notification sign (Non-California #G237643, CA Stores #G237645 in Spend Management) posted on the compactor door inside the Receiving Area?	Yes/No

Task Completion Surveys - Conduct Emergency Power Generator Above-Ground Tank Inspection	* Is the area around the generator, transformer and piping free of any active leaks and evidence of any spills that were not cleaned up? If no, call the Hazmat Support Line at 1-888-429-6281.	Yes/No
	* Is the fuel fill cover closed and locked?	Yes/No
	* Is the audible alarm for the generator in "normal" (silent) status? The inspector only needs to listen for the audible alarm – a chirping noise. If "no," call Facilities Management at 1-877-658-2181.	Yes/No
	* Is the spill response plan posted on the Emergency Generator? If no, print a copy, laminate, and post it near fuel fill port.	Yes/No
	* Is the tank free of excessive rust, peeling paint, or damage? If no, call Facilities Management at 1-877-658-2181.	Yes/No
	* Is the concrete foundation for the tank free of any damage or cracks? If no, call Facilities Management at 1-877-658-2181.	Yes/No
	* Is the tank fuel level gauge readable and in good condition?	Yes/No

California Environmental Reporting System (CERS) — Aboveground Petroleum Storage Act - Facility Information Report

Facility/Site

LOWE'S #2211
811 East Arques Avenue
Sunnyvale, CA 94085

CERS ID
10416037

CAR000280123

Submittal Status

Submitted on 5/21/2021 by *Maggie Ta* of Lowe's Home Centers, LLC (Mooresville, NC)

APSA Facility Information

Conditionally Exempt APSA Tank Facility
N

Date Of SPCC Plan Certification or Date of 3-Year Review
8/23/2016

Total Aboveground Storage Capacity of Petroleum	Number of Tanks in Underground Area(s)
1500	1

Printed on 5/21/2021 11:14 AM

Appendix D:

811 East Arques Preventative Maintenance Checklist

LENNOX
NATIONAL ACCOUNT SERVICES
800-333-4001

Type	Customer	Service Call ID
PM	Lowes - Primary	2112-04069

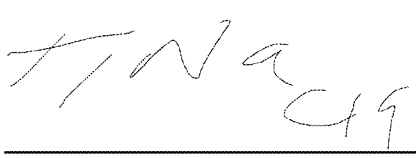
Location - Address	PO / WO / AUTH / TRACKING
2211 - 811 E Arques Ave Sunnyvale, CA	153764138

Equipment

Loca/Area	Unit	Type	Make	Model	Serial	Tons	Age	Rating	T-Stat
Electrical	1	PACKAGE UNIT	LENNOX	LCA036H2BN1Y	5605J18128	3.0	16	19	PROG
Entrance	2	PACKAGE UNIT	LENNOX	LGA120H2BH3G	5605K17185	10.0	16	19	EMS
Entrance	3	PACKAGE UNIT	LENNOX	LGA120H2BH3G	5605L02436	10.0	16	18	EMS
Sales	4	PACKAGE UNIT	LENNOX	LGA240H2BS3G	5605K02185	20.0	16	18	EMS
Sales	5	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02077	15.0	16	18	EMS
Sales	6	PACKAGE UNIT	LENNOX	LGA240H2BS3G	5605L02186	20.0	16	18	EMS
Sales	7	PACKAGE UNIT	LENNOX	LGA240H2BS3G	5605L02187	20.0	16	18	EMS
Sales	8	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605K13593	15.0	16	18	EMS
Sales	9	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02071	15.0	16	18	EMS
Sales	10	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02069	15.0	16	18	EMS
Sales	11	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02081	15.0	16	18	EMS
Sales	12	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02072	15.0	16	18	EMS
Sales	13	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02075	15.0	16	18	EMS
Sales	14	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02074	15.0	16	19	EMS
Sales	15	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02078	15.0	16	19	EMS
Sales	16	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02076	15.0	16	19	EMS
Sales	17	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02073	15.0	16	19	EMS
Sales	18	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02079	15.0	16	19	EMS
Receiving	19	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02070	15.0	16	19	EMS
Receiving	20	PACKAGE UNIT	LENNOX	LGC180H2BS2G	5605L02082	15.0	16	19	EMS

Temperatures

				Cooling			Heating		
Loca/Area	Unit	Type	Outside	Mixed	Supply	Delta	Mixed	Supply	Delta
Electrical	1	PACKAGE UNIT	49	70	48	22	N/A	N/A	N/A
Entrance	2	PACKAGE UNIT	49	70	49	21	70	121	51
Entrance	3	PACKAGE UNIT	49	71	49	22	71	122	51
Sales	4	PACKAGE UNIT	49	70	48	22	70	120	50
Sales	5	PACKAGE UNIT	49	71	50	21	71	124	53
Sales	6	PACKAGE UNIT	49	71	124	53	71	122	51
Sales	7	PACKAGE UNIT	49	71	52	19	71	124	53
Sales	8	PACKAGE UNIT	49	71	53	18	71	125	54
Sales	9	PACKAGE UNIT	49	71	50	21	71	123	52
Sales	10	PACKAGE UNIT	49	71	51	20	71	122	51
Sales	11	PACKAGE UNIT	49	71	52	19	71	124	53
Sales	12	PACKAGE UNIT	49	71	52	19	71	124	53
Sales	13	PACKAGE UNIT	49	71	52	19	71	120	49
Sales	14	PACKAGE UNIT	49	71	49	22	71	118	47
Sales	15	PACKAGE UNIT	50	73	55	18	73	112	39
Sales	16	PACKAGE UNIT	50	72	52	20	72	106	34
Sales	17	PACKAGE UNIT	49	73	56	17	73	105	32

Customer Signature: 

MOD: TINA WOZNIAK

Technician Signature: 

4084 - JESSE GOMEZ

FL: CAC1813363 • AL: 96174 • GA: CN208504 • TX: TACLA019292E • NC: 23301 • SC: M103691 • LA: 37150 • CT: 30317 • VA: 2705071550A • OK: 90901 • AR: 2120754 • TN: 00050817

LENNOX
NATIONAL ACCOUNT SERVICES
800-333-4001

Type	Customer	Service Call ID
PM	Lowes - Primary	2112-04069

Location - Address	PO / WO / AUTH / TRACKING
2211 - 811 E Arques Ave Sunnyvale, CA	153764138

Sales	18	PACKAGE UNIT	49	74	55	19	73	108	35
Receiving	19	PACKAGE UNIT	50	72	53	19	72	107	35
Receiving	20	PACKAGE UNIT	50	73	52	21	72	110	38

Technicians Time

Name	Time In	Time Out	Total Time (h)
6369 - GEOVANY MUNOZ	12/27/2021 10:37 AM	12/27/2021 8:23 PM	9.75
4084 - JESSE GOMEZ	12/27/2021 11:08 AM	12/27/2021 7:15 PM	8.25

Belts & Filters

Part Description	Unit														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BELT A43	1														
BELT A46			1												
BELT B51		1													
BELT B59					1			1	1	1	1	1	1	1	1
BELT B66				1		2	2								
PLEATED FILTER 16X25X2	2														
PLEATED FILTER 18X24X2		4	4												
PLEATED FILTER 24X24X2				6	6	6	6	6	6	6	6	6	6	6	6

Part Description	Unit				
	16	17	18	19	20
BELT B59	1	1	1	1	1
PLEATED FILTER 24X24X2	6	6	6	6	6

Tasks

Task Name	Result	Completed On	Completed By
Did you replace the filters this visit?	DONE	12/27/2021 3:59 PM	6369
LENNOX S: 5605J18128	DONE	12/27/2021 4:00 PM	6369
LENNOX S: 5605K17185	DONE	12/27/2021 4:02 PM	6369
LENNOX S: 5605L02436	DONE	12/27/2021 4:03 PM	6369
LENNOX S: 5605K02185	DONE	12/27/2021 4:33 PM	6369
LENNOX S: 5605L02077	DONE	12/27/2021 4:34 PM	6369
LENNOX S: 5605L02186	DONE	12/27/2021 4:35 PM	6369
LENNOX S: 5605L02187	DONE	12/27/2021 4:36 PM	6369
LENNOX S: 5605K13593	DONE	12/27/2021 4:37 PM	6369
LENNOX S: 5605L02071	DONE	12/27/2021 4:38 PM	6369
LENNOX S: 5605L02069	DONE	12/27/2021 4:40 PM	6369
LENNOX S: 5605L02081	DONE	12/27/2021 4:42 PM	6369

Customer Signature: TINA G

MOD: TINA WOZNIAK

Technician Signature:

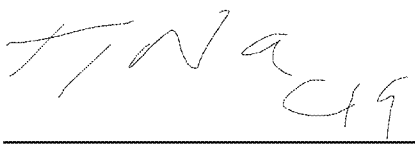
4084 - JESSE GOMEZ

LENNOX
NATIONAL ACCOUNT SERVICES
800-333-4001

Type	Customer	Service Call ID
PM	**Lowes - Primary**	**2112-04069**

Location - Address	PO / WO / AUTH / TRACKING
2211 - 811 E Arques Ave Sunnyvale, CA	**153764138**

LENNOX S: 5605L02072	DONE	12/27/2021 4:43 PM	6369
LENNOX S: 5605L02075	DONE	12/27/2021 5:24 PM	6369
LENNOX S: 5605L02074	DONE	12/27/2021 5:25 PM	6369
LENNOX S: 5605L02078	DONE	12/27/2021 4:36 PM	4084
LENNOX S: 5605L02076	DONE	12/27/2021 4:34 PM	4084
LENNOX S: 5605L02073	DONE	12/27/2021 4:33 PM	4084
LENNOX S: 5605L02079	DONE	12/27/2021 4:32 PM	4084
LENNOX S: 5605L02070	DONE	12/27/2021 4:31 PM	4084
LENNOX S: 5605L02082	DONE	12/27/2021 4:29 PM	4084
Did you call the IVR to check in: IVR number: Call 516-500-7776	DONE	12/27/2021 2:17 PM	4084
Completing this task will automatically IVR you into	DONE	12/27/2021 2:16 PM	4084
Completing this task will IVR you out of ServiceChannel. You must	DONE	12/27/2021 4:42 PM	4084
Did you review the Risk Assessment at this job site?	DONE	12/27/2021 2:16 PM	4084
Did you check in with the store manager? Enter store manager's	TINA WOZNIAK	12/27/2021 4:39 PM	4084
Did you call the IVR to check out: IVR number: Call 516-500-7776	DONE	12/27/2021 5:25 PM	6369
Enter store manager's first name:	TINA	12/27/2021 4:39 PM	4084
Enter store manager's last name:	WOZNIAK	12/27/2021 4:39 PM	4084
I certify I have neither received or witnessed any job related	I DID NOT WITNESS	12/27/2021 8:23 PM	6369
I certify I have neither received or witnessed any job related	I DID NOT WITNESS	12/27/2021 7:07 PM	4084

Customer Signature: 

MOD: TINA WOZNIAK

Technician Signature: 

4084 - JESSE GOMEZ

LENNOX
NATIONAL ACCOUNT SERVICES
800-333-4001

Type	Customer	Service Call ID
PM	Lowes - Primary	2112-04069

Location - Address	PO / WO / AUTH / TRACKING
2211 - 811 E Arques Ave Sunnyvale, CA	153764138

		Unit														
Section	Checkpoint	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Age	**Age***	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor
Cabinet	**Cabinet/Paint***	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Outdoor Air Screen	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Panels Insulation	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Condensing	**Compressor***	Fair														
	Compressor #1		Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Compressor #2		Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Compressor #3				Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Compressor #4				Fair		Fair	Fair								
	Condenser Coil*	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #1		Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #2		Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #3				Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #4				Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Condenser Fans	Fair														
	Drier Condition	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Visual Leak	DNE	DNE	DNE	Fair	Fair	Fair	DNE	DNE	DNE	DNE	Fair	Fair	Fair	Fair	Fair
Economizer	Damper Blades and Connectors	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Economizer Controls	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Economizer Motor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Sensors	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Electrical	Disconnect Fuses	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Safety Controls	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
	T-Stat/ EMS	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Unit Controls	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Wiring	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Fan	Belts and Pulleys	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Blower Wheel Bearing	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Drain Pan	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Duct System*	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Evap Motor*	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Evaporator Coil*	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Filters	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Heating	**Heat. Exg./Burners/Elec.**	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Ignition Controls	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
	Operational Control Valves	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Service Area	ACR Piping/Insulation	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Condensate Drain	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
	Curbs & Stands*	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair

Customer Signature: TINA WOZNIAK

MOD: TINA WOZNIAK

Technician Signature:

4084 - JESSE GOMEZ

FL: CAC1813363 • AL: 96174 • GA: CN208504 • TX: TACLA019292E • NC: 23301 • SC: M103691 • LA: 37150 • CT: 30317 • VA: 2705071550A • OK: 90901 • AR: 2120754 • TN: 00050817

LENNOX
NATIONAL ACCOUNT SERVICES
800-333-4001

Type	Customer	Service Call ID
PM	**Lowes - Primary**	**2112-04069**

Location - Address	PO / WO / AUTH / TRACKING
2211 - 811 E Arques Ave Sunnyvale, CA	**153764138**

Service Area Debris	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good

* These checkpoints are unit ratings.

Customer Signature: _____

MOD: TINA WOZNIAK

Technician Signature: _____

4084 - JESSE GOMEZ

FL: CAC1813363 • AL: 96174 • GA: CN208504 • TX: TACLA019292E • NC: 23301 • SC: M103691 • LA: 37150 • CT: 30317 • VA: 2705071550A • OK: 90901 • AR: 2120754 • TN: 00050817

LENNOX
NATIONAL ACCOUNT SERVICES
800-333-4001

Type	Customer	Service Call ID
PM	**Lowes - Primary**	**2112-04069**

Location - Address	PO / WO / AUTH / TRACKING
2211 - 811 E Arques Ave Sunnyvale, CA	**153764138**

		Unit				
Section	Checkpoint	16	17	18	19	20
Age	**Age***	Poor	Poor	Poor	Poor	Poor
Cabinet	**Cabinet/Paint***	Fair	Fair	Fair	Fair	Fair
	Outdoor Air Screen	Fair	Fair	Fair	Fair	Fair
	Panels Insulation	Fair	Fair	Fair	Fair	Fair
Condensing	Compressor #1	Fair	Fair	Fair	Fair	Fair
	Compressor #2	Fair	Fair	Fair	Fair	Fair
	Compressor #3	Fair	Fair	Fair	Fair	Fair
	Condenser Coil*	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #1	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #2	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #3	Fair	Fair	Fair	Fair	Fair
	Condenser Fan #4	Fair	Fair	Fair	Fair	Fair
	Drier Condition	Fair	Fair	Fair	Fair	Fair
	Visual Leak	Fair	DNE	DNE	DNE	DNE
Economizer	Damper Blades and Connectors	Fair	Fair	Fair	Fair	Fair
	Economizer Controls	Fair	Fair	Fair	Fair	Fair
	Economizer Motor	Fair	Fair	Fair	Fair	Fair
	Sensors	Fair	Fair	Fair	Fair	Fair
Electrical	Disconnect Fuses	Fair	Fair	Fair	Fair	Fair
	Safety Controls	Good	Good	Good	Good	Good
	T-Stat/ EMS	Fair	Fair	Fair	Fair	Fair
	Unit Controls	Fair	Fair	Fair	Fair	Fair
	Wiring	Fair	Fair	Fair	Fair	Fair
Fan	Belts and Pulleys	Fair	Fair	Fair	Fair	Fair
	Blower Wheel Bearing	Fair	Fair	Fair	Fair	Fair
	Drain Pan	Fair	Fair	Fair	Fair	Fair
	Duct System*	Fair	Fair	Fair	Fair	Fair
	Evap Motor*	Fair	Fair	Fair	Fair	Fair
	Evaporator Coil*	Fair	Fair	Fair	Fair	Fair
	Filters	Good	Good	Good	Good	Good
Heating	**Heat. Exg./Burners/Elec.**	Fair	Fair	Fair	Fair	Fair
	Ignition Controls	Good	Good	Good	Good	Poor
	Operational Control Valves	Good	Good	Good	Good	Good
Service Area	ACR Piping/Insulation	Fair	Fair	Fair	Fair	Fair
	Condensate Drain	Fair	Fair	Fair	Fair	Fair
	Curbs & Stands*	Fair	Fair	Fair	Fair	Fair
	Debris	Good	Good	Good	Good	Good

* These checkpoints are unit ratings.

Customer Signature: TINA WOZNIAK

MOD: TINA WOZNIAK

Technician Signature:

4084 - JESSE GOMEZ

Appendix E:

Vapor Pin Installation Standard Operating Procedure

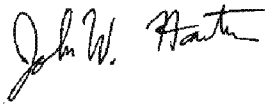
Standard Operating Procedures

Subslab Vapor Pin Installation

Date Published: September 13, 2022

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



13 September 2022

J. Wesley Hawthorne

Date

Table of Contents

LIST OF ATTACHMENTS

ATTACHEMNT NO.	TITLE
1	The Vapor Pin
2	Drawing of Installed Vapor Pin

List of Acronyms and Abbreviations

ACRONYM	DESCRIPTION
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
In. H_2O	Inches of Water Column
In. Hg	Inches of Mercury
L	Liter
Locus	Locus Technologies
mg/L	Milligrams per Liter
RWQCB	Regional Water Quality Control Board
SOP	Standard Operating Procedure

1. Introduction

This Standard Operating Procedure (SOP) was prepared by Locus Technologies (Locus) to support subslab vapor pin installation. As such, this document outlines the procedures and site-specific considerations to be implemented during forthcoming vapor pin installations. All activities described in this document will be compliant with the 2015 *Advisory Active Soil Gas Investigations* guidance, which was jointly developed by California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (RWQCB) (EPA, 2015).

2. Subslab Vapor Pin Installation

To characterize the subslab vapor at potentially impacted sites, subslab Vapor Pins (Cox-Colvin, 2022) will be installed. This section describes the vapor pin installation procedures to be utilized. See the soil gas sampling SOP for sampling procedures.

2.1 The Vapor Pin Overview

The Vapor Pin, manufactured by Cox-Colvin & Associates, is a sampling device designed to aid in collecting soil vapor samples from directly beneath a building floor. As a general overview, the Vapor Pin is a hollow, single piece of stainless steel that is barbed at both ends and threaded at the union of the two barbs (Attachment 1). The entire length of the Vapor Pin is 3.22 inches. The long and wider barbed end is covered with a silicon sleeve, which then is hammered into a hole previously installed into the slab of a building. The silicon around this barb compresses against the circumference of the hole as it is hammered in, to form an air-tight seal between the air above and below the slab. The smaller and shorter barb is the sample port of the Vapor Pin, from which sampling equipment can be attached. The threads at the center of the Vapor Pin are used to attached flush-to-grade cover. Each component can be seen in Attachment 2. Adoption of vapor pin technology for vapor intrusion investigations has been encouraged by the DTSC, provided sampling techniques from the 2015 guidance are considered and implemented (EPA, 2015).

2.2 Required Tools

The following tools and/or equipment will be used to install each Vapor Pin:

- Vapor Pin Sampling Kit (https://www.vaporpin.com/product/vapor-pin-sampling-device-sets/)
- Vapor Pin Drilling Guide (https://www.vaporpin.com/product/stainless-steel-drilling-guide/)
- Vapor Pin Installation Tool (https://www.vaporpin.com/product/installationextraction-tool/)
- Rotary Hammer Drill
- 1½-inch diameter hammer drill bit
- ⅝-inch diameter hammer drill bit
- Diamond hole saw
- ¾-inch diameter bottle brush
- Dead blow hammer
- Utility Vacuum

2.3 Installation Procedures

Before starting the Vapor Pins installations, a utility locator will be contracted to clear proposed locations for subslab utilities such as water, sewer, and electrical conduits. The locator will also be used to ensure any reinforcement structures within the slab, such as rebar, will not be encountered during installations. Following successful clearance at each location, the Vapor Pins will be installed using the following steps:

1. A utility vacuum, such as a Shop-Vac, will be set up near the Vapor Pin location to collect drill cuttings as the location is drilled. During vacuum use, the area will be monitored for potential dust. Shall dust be observed, drilling will be

temporarily ceased and masks provided to prevent airborne dust from reaching field staff and nearby receptors.

2. Using the rotary hammer drill with the 1½-inch diameter hammer drill bit attached, a 1½-inch diameter hole will be drilled 1¾ inches deep. If drilling through tile is necessary, a diamond hole saw first will be used to cut through the layer of tile to eliminate any stress on the surrounding tile area. This depth will be confirmed by placing the Vapor Pin drilling guide in this initial hole. This tool will sit flush with the slab surface when placed in the initial hole is the appropriate depth.
3. With the Vapor Pin drilling guide still in the initial hole, a ⅝-inch diameter hole will be drilled through the remaining depth of the slab. This will be done using the rotary hammer drill with the ⅝-inch diameter hammer drill bit attached. The drill bit will be centralized using the Vapor Pin drilling guide. The drill bit will be advanced three to four inches into the engineering fill below the slab. During this step, cautionary measures, such as slow drill speeds and careful observation of drill depth, will be taken to minimize any potential damage that could be incurred to the moisture barrier underlying the slab. Should any damage occur to the moisture barrier during any of the installations, it will be documented and an attempt to repair will be made upon destruction of the Vapor Pin.
4. Once a hole has successfully been drilled through the slab, the hole will be cleaned with the bottle brush. All loose cuttings will be removed with the vacuum thereafter.
5. A silicon sleeve will be installed over the barbs of the downward end of the Vapor Pin to create a seal. The Vapor Pin will then be placed into the ⅝-inch

diameter hole and the Vapor Pin installation tool will be placed on top of the sample (upward) barb. This tool protects the barb as it is hammered into the ⅝-inch hole.

6. Using a dead blow hammer, the Vapor Pin will be tapped into the ⅝-inch hole until the bottom of the threads are flush with the ⅝-inch hole surface. An indication of a good seal is observed when the silicon sleeve forms a slight budge between the slab and the Vapor Pin shoulder. During this step, care will be taken to ensure that the installation tool is aligned parallel with the Vapor Pin to avoid damage.
7. A cap will be placed on the tip of the sampling barb and a flush-mounted cover will be threaded onto the Vapor Pin. The Vapor Pin is now installed. Once subslab vapors have re-equilibrated, at least two hours following installation, the locations may be sampled.

2.4 Decommissioning Procedures

After successful completion of the sampling program, the subslab Vapor Pins will decommissioned according to the following procedures:

1. The flush-mounted cover and protective cap will be removed from the Vapor Pin.
2. The Vapor Pin Installation Tool will be threaded onto the Vapor Pin. Once the tool is securely threaded onto the Vapor Pin, the tool will continue to be turned clockwise. The Vapor Pin will extract from the hole like a wine cork. The manufacturer explicitly states not to pull on the Vapor Pin.

3. Once the Vapor Pin has been fully removed, the location will be re-inspected for damage to the subslab moisture barrier, if one is present. Should any damage have occurred, the ⅝-inch hole will be re-drilled to a depth of 6 inches below the slab to create a void in the fill below the slab. A ⅝-inch tube will be inserted to the bottom of the hole, and silicon will be pressure injected into the hole while slowly removing the tube. The injection will end at where the ⅝-inch hole widens to the 1½-inch diameter hole. This will create a seal where the moisture barrier has been punctured.
4. The remaining 1¾ inches to the slab surface will be backfilled with neat cement grout. A putty knife will be used to remove any excess grout and ensure the original surface is restored.

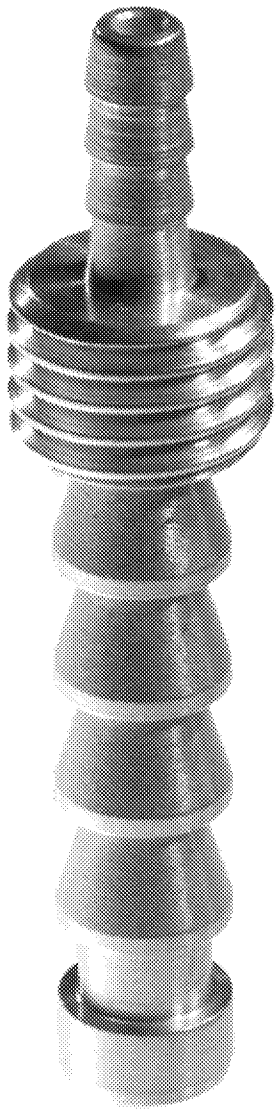
References

California Environmental Protection Agency, 2015, *Advisory Active Soil Gas Investigations,* July.

ATTACHMENTS

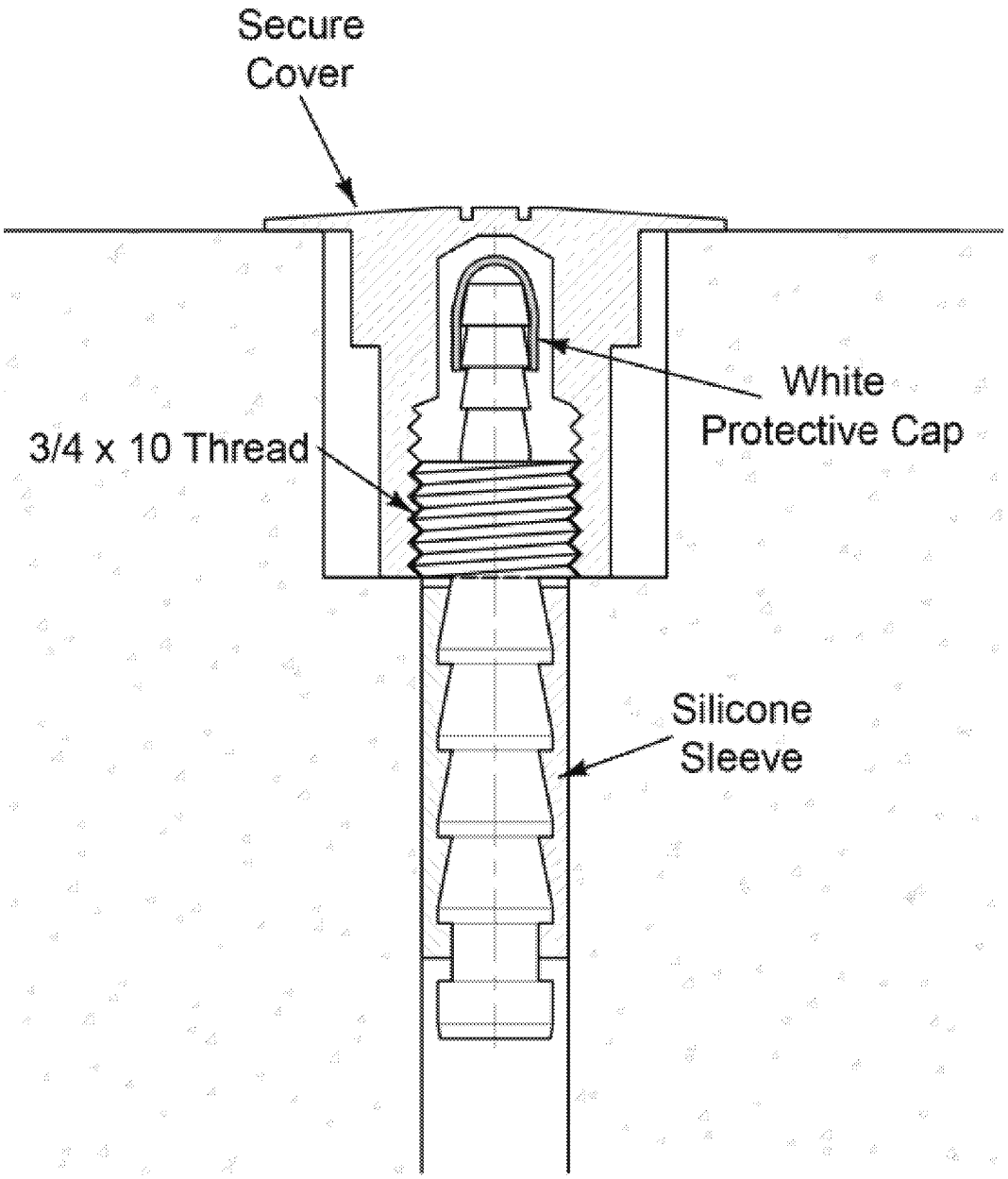
Date Published: September 2, 2021

Attachment 1. The Vapor Pin



Cox-Colvin, 2022

Attachment 2. Drawing of Installed Vapor Pin



Cox-Colvin, 2022

Appendix F:

Summa Canister Sampling
Standard Operating Procedure

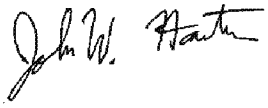
Standard Operating Procedure

Soil Gas Sampling using 1-Liter Summa Canisters

Date Published: September 13, 2022

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



13 September 2022

J. Wesley Hawthorne

Date

Table of Contents

ATTACHMENTS

ABBREVIATIONS

List of Attachments

ATTACHMENT	TITLE
1	Soil Vapor Sampling Components
2	Soil Vapor Sampling Form

List of Acronyms and Abbreviations

ACRONYM	DESCRIPTION
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
In. H_2O	Inches of Water Column
In. Hg	Inches of Mercury
L	Liter
Locus	Locus Technologies
mg/L	Milligrams per Liter
RWQCB	Regional Water Quality Control Board
SOP	Standard Operating Procedure

1. Introduction

This Standard Operating Procedure (SOP) was prepared by Locus Technologies (Locus) to support soil gas sampling. As such, this document outlines the procedures and site-specific considerations to be implemented during forthcoming sampling events. All activities described in this document will be compliant with the 2015 *Advisory Active Soil Gas Investigations* guidance, which was jointly developed by California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (RWQCB) (EPA, 2015).

2. Soil Gas Sampling Procedures

This section discusses the methods and reporting procedures to be used for soil gas sampling. The procedure was developed for sampling sub slab vapor pins but also can be used for gathering samples from soil gas probes.

2.1 Sampling Equipment

Soil gas sampling equipment will be implemented in accordance with DTSC and RWQCB guidance (EPA, 2015). Each monitoring location will be purged with a flow-regulated vacuum pump. Both purging and sampling will occur within a shroud that will contain a constant ambient concentration of 20 percent (%) helium in order to check for communication between the surface air and vapors at depth. Ambient helium in the shroud will be measured using a standard helium gas detector, such as the C-Squared He Analyzer. Samples will be collected into passivated 1-liter (L) Summa canisters. Attachment 1 presents the components of a typical soil vapor sample apparatus. The main components of the shroud and sampling set-up are as follows:

- 1-Liter passivated stainless-steel Summa canister
- Sample manifold, which includes:
  - Cannister vacuum gauge
  - Flow regulator (flowrate not to exceed 200 mL/min)
  - Well-head vacuum gauge
  - Shut-off valve to purge line
- Vacuum pump

- Tracer gas shroud
- Tracer gas (Helium)
- Field helium detectors (for measuring helium in the shroud and in collected purge air)

2.2 Sampling Conditions

Moisture conditions in the field can affect the ability to collect unbiased soil vapor samples. For instance, rainfall decreases the air-filled porosity of shallow soils, thereby limiting diffusional transport of subsurface gases. Also, constituents in soil vapor may partition into clean infiltrating rainwater when shallow soils are saturated. These areas of high soil moisture that become saturated following precipitation events should be allowed to drain, if possible, prior to soil vapor sampling. As such and per the DTSC guidance, soil gas sampling will not occur during a significant rain event and will only occur after five days without a significant rain event (EPA, 2015). DTSC defines a significant rain event as 0.5 inches of rainfall occurring during a 24-hour period.

2.3 Sample Collection Procedures

2.3.1 Sample Apparatus Construction

At each sample location, sampling apparatus will be completely set up to allow for shut-in testing, leak testing, purging, and sampling. Initially, a 1 L Summa canister will be connected to a laboratory-supplied sample manifold that includes a flow-regulator that restricts flow between 100 and 200 milliliters, and does not exceed 200 mL/min. The unique identification numbers associated with both the cannister and with the manifold will be recorded on field sampling forms and on the chain-of-custody for

each sample location. An example sampling form is included in Attachment 2. A new sample manifold will be used at each location. After successful shut-in testing, sample tubing will be connected to the monitoring location barb using semi-rigid tubing. The purge line will then be connected to the Summa canister manifold using ferrule fittings and a compression nut. A vacuum pump, with both inlet and outlet barbs, will then be fastened to the outlet of the canister manifold. A last length of tubing will be attached to the outlet barb of the vacuum pump so that air purged from the sample location can be collected into a Tedlar bag to ensure soil gas is not released into the indoor air and for leak testing the sample train. A helium detector will be placed immediately next to the cannister, near the sampling location. A shroud is then placed over the entire sampling apparatus, excluding only the vacuum pump and Tedlar bag, to serve as an enclosure. Helium gas will be introduced into the shroud from a small hole in the enclosure that allows tubing to enter from a flow-regulated helium tank.

2.3.2 Shut-In Test

Prior to collection of samples, quantitative shut-in tests will be conducted in accordance with regulatory guidance (EPA, 2015). The shut-in test involves applying a minimum vacuum of 100 inches of water column (in. H_2O) to the sample train with a vacuum pump to evacuate the lines. A shut-off valve to the vacuum pump will then be closed and the sampling train will remain under vacuum for approximately one minute to assess whether there was any loss of vacuum. If there is any observable loss of vacuum, the fittings will be adjusted until the vacuum in the sample train does not noticeably dissipate. After the shut-in test is successfully completed, the result will be record on field sampling forms and the sampling train will not be altered.

2.3.3 Purge and Leak Test

Following a successful shut-in test, each sample location will be purged. Purging is required to remove ambient air from the sample point and sampling train. In accordance with the *Soil Gas Advisory*, a standard three volume purge will used for each soil gas sample location. The purge volume will be calculated using standard methods to account for the volume of stagnant air in each sample location as well as the sample tubing and sample manifold. Dimensions will be gathered from construction drawings or by field measurements. Sample location will be purged at a flow rate between 100 and 200 milliliters per minute (mL/min) at a maintained vacuum of 100 in. H_2O or less.

During purging, quantitative leak tests will be conducted using helium as a gaseous tracer compound under a shroud. This method of leak detection ensures that soil vapor wells, probes, or pins are properly constructed, and the sample train components do not leak while in use. The shroud will contain the entire sampling apparatus and the sampling location annulus. A helium detector will be used to hold shroud helium concentrations at a minimum of 20% under the shroud. All purged air will be collected into a Tedlar bag, which will then be analyzed for helium outdoors after purging is complete to check for leaks in the sample train and to ensure potentially VOC-impacted purged air is not released into the indoor air. Samples will not be collected until the quantitative leak test demonstrates that leaks resulting in detections of helium are not present above the accepted maximum allowable concentration, which is 5 % of the average shroud helium concentration. Helium concentrations as well as cannister and well-side vacuum measurements will be recorded at regular intervals during the purge on field sampling forms.

2.3.4 Sample Collection

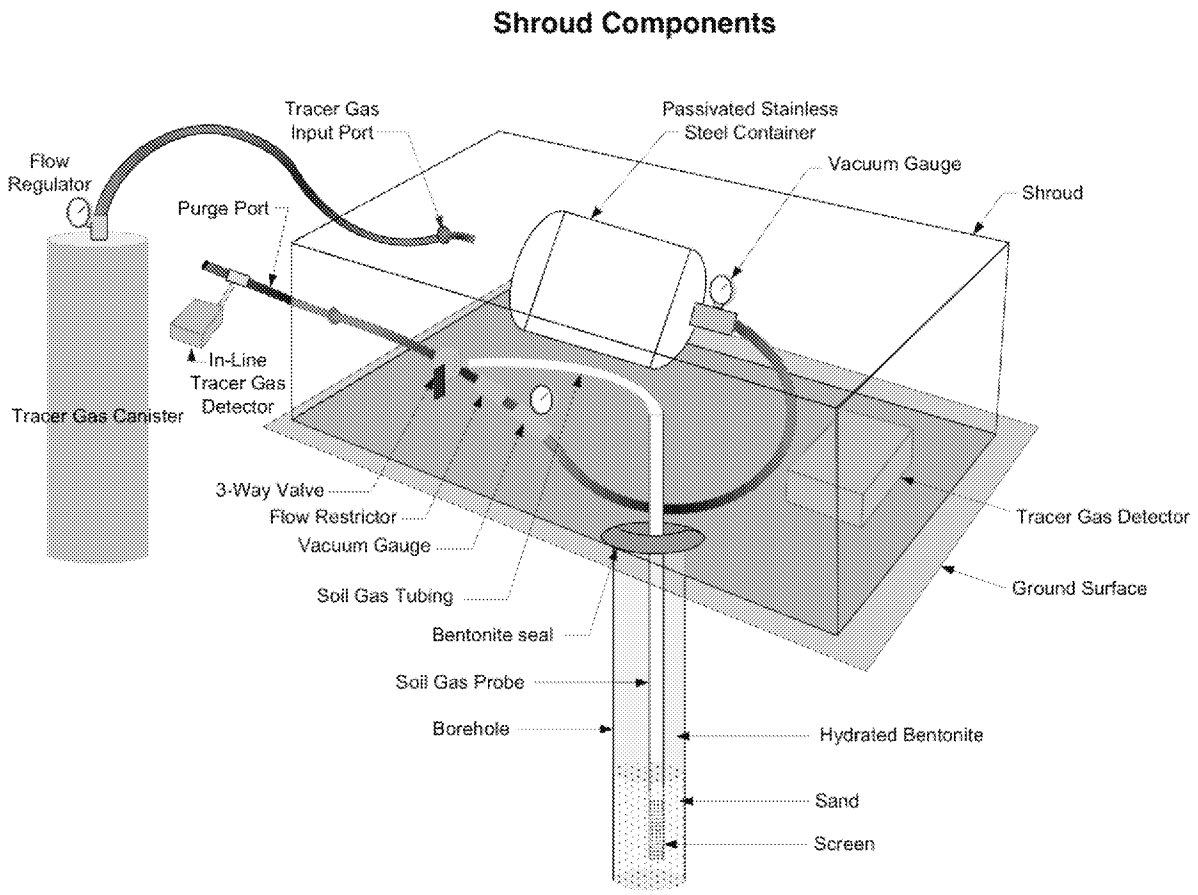
After three volumes have been purged, a shut-off valve to the vacuum pump will be closed and the pump will be turned off. Using this order of operations will prevent ambient air entering the cannister through the purge line as the purge line vacuum equilibrates with atmospheric pressure. The sample will then be collected by opening the cannister valve recording the initial canister vacuum pressure on field sampling forms and on the chain-of-custody. After this, the shroud will again be placed over the sample apparatus and helium will be maintained at a concentration of 20% under the enclosure. Laboratory analysis for helium by ASTM D1946 will be used to evaluate whether ambient air was introduced into the sample through the well seal or sampling apparatus seals during sample collection. The laboratory-provided sample manifold includes a flow regulator that restricts flow to between 100 and 200 mL/min (less than 200 mL/min) at a vacuum at 100 in. H_2O or less. At regular intervals during sample collection, shroud helium concentration, well-side vacuum pressure, and cannister vacuum pressure will be recorded. Sample collection will cease with a slight vacuum to avoid diluting the sample. Once the canister vacuum gauges read between 8 and 4 inches of mercury (in. Hg), the canister valve will be closed. The cannister's final vacuum reading will be noted on field sampling forms and on the chain-of-custody to document sample integrity.

References

California Environmental Protection Agency, 2015, *Advisory Active Soil Gas Investigations,* July.

ATTACHMENTS

Attachment 1. Soil Vapor Sampling Components



EPA, 2015, Fig. C-1

Soil Gas Sampling Form

Date Published: March 28, 2021

Soil Vapor
Field Measurement Log

Date:				Sampler:	
Client:				Project #:	
Container ID:				Manifold ID:	
Sample ID:				Temperature:	
Duplicate Sample ID:		Duplicate Container ID:		Precipitation:	

Shut-In Test Measurements

Start Time	Start Vacuum (inches Hg)	End Time	End Vacuum (inches Hg)	Shut-In Test Pass/Fail

Purge and Leak Check Measurements

Calculated Purge Volume

Calculated Purge Time

Time	Flow (ml/min)	Well side Vacuum Pressure (inches Hg)	Canister Vacuum Pressure (inches Hg)	In-line Helium Concentration (%)	Shroud Helium Concentration (%)	Comments (purge method, issues, etc)

Sampling Measurements

Time	Flow (ml/min)	Well side Vacuum Pressure (inches Hg)	Canister Vacuum Pressure (inches Hg)	Shroud Helium Concentration (%)	Comments
Average Helium Concentration:					

Notes

Appendix G:

City of Sunnyvale Sewer Utility Map

SUNNYVALE - SEWER

Sunnyvale

Legend

Lines

- Active Sunnyvale Main
- Abandoned Sunnyvale Main
- Active Private Main
- Others Main
- Active Sunnyvale Lateral
- Abandoned Sunnyvale Lateral
- Active Private Lateral
- Active Force Main
- Abandoned Force Main
- Active Santa Clara Main
- Active Cupertino Main

Points

- Flushing Inlet
- Active Manhole
- Abandoned Manhole
- Active Drop Manhole
- Diversion Structure
- Grade Break
- Main Line Clean Out
- Network Structure
- Clean Out
- Active Plug
- Abandoned Plug
- Meter
- Pump Station
- Lift Station
- Riser
- Drain Inlet

Polygons

- Easement
- Concrete Casing
- Steel Casing
- Detail Polygon
- Blockgrid
- City Boundary

Basemap

- Constructed Centerline
- Street Centerline
- Parcel

Annotation

365'	- Pipe Length	**BORREGAS AVENUE**	- Street Name
6"	- Diameter	129	- Lot Number
VCP	- Material	1405	- Address Number
0.2%	- Slope	ONSITE PRIVATE SYSTEM	- Miscellaneous Annotation
US=19.48	- Upstream Elevation		
DS=18.48	- Downstream Elevation		
209	- Manhole Number		
R=23.58	- Rim Elevation		
6" CO	- Clean Out Annotation		
F.I.	- Flushing Inlet Annotation		
10' P.U.E	- Easement Annotation		
80'-42" Steel Casing	- Casing Annotation		

411	412	413
390	389	388
371	372	373

389

0 50 Feet

Jan 15, 2020

811 East Arques

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